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THE
VETERINARIAN;
OR,
MONTHLY JOURNAL OF VETERINARY SCIENCE,
FOR 1835.

VOL. VIII.—VOL. III. NEW SERIES.

EDITED BY

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—♦—
Ars Veterinaria post medicinam secunda est.—Vegetius.

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLVI.

Apoplexy in the Horse.

MEGRIMS is apoplexy under its mildest forms. It is a determination of blood to the brain,—pressure on the origins of the animal nerves, and partial or total, yet temporary, loss of consciousness and voluntary motion: but the determination of blood, if not so sudden, may be greater or differently directed, or more lasting, and resolve itself in that species of apoplexy recognized in our strange nomenclature under the name of *sleepy staggers*, in distinction from phrenitis, or, as the farrier calls it, *mad staggers*.

Early Symptoms.—There are usually sufficient warnings of its approach, if the carter or the groom had wit enough to observe them. The horse is a little off his feed; he is more than usually dull; there is a degree of stupidity about him, and generally a somewhat staggering gait. This goes off when he has been out a little while; but it returns under a more decided character, until at length it forces itself on the attention of those about the animal.

More advanced Symptoms.—The actual illness is first recognized by the horse standing with his head depressed; it bears upon or is forced against the manger or the wall, and a considerable part of the weight of the animal is apparently supported by this pressure of the head against some fixed object. As he thus stands he is balancing himself from one side to the other, as if he were ready to fall; and it is often dangerous to move him, for he falls without warning. If he can get his muzzle into a corner, he will sometimes continue there motionless for a full half hour, and then drop as if he were shot; but the next moment he is up again with his feet almost in the rack. He sleeps, or seems to do so, as he stands; or at least he is more than half unconscious of surrounding objects. When he is roused he looks va-

cantly around him ; perhaps he will take a lock of hay, but, ere it is half masticated, the eye closes, and he sleeps again with the food in his mouth. Soon afterwards you perhaps rouse him once more ; the eye opens, but it has an unmeaning glare ; you move your hand before it, but it closes not ; you speak to him, you halloo to him, but he hears not ; but the half-chewed food again drops from his mouth. The last act of voluntary motion which he will attempt is usually to drink ; but he has little power over the muscles of deglutition, and the fluid returns through the nostrils. He begins to foam at the mouth—he is every moment balancing more from side to side, until, at length, he falls : his breathing is laborious, stertorous ; it is performed by the influence of the organic nerves, and those of animal life no longer lend their aid. The pulse is slow and oppressed ; the jugular vein is swelled almost to bursting ; the muzzle is cold, and the discharge of the feces involuntary. The eyes are now open, protruded, fixed, and the pupils dilated. The animal grinds his teeth ; twitchings steal over his face and attack his limbs, and they sometimes proceed to convulsions, and dreadful ones too ; the horse beats himself about in a fearful manner, but there is rarely disposition to do mischief. In the greater number of cases, however, the convulsions last not long : all the powers of life are oppressed, and death speedily closes the scene.

Post-mortem Appearances.—The whole venous system is in a state of congestion, but the vessels of the brain are peculiarly turgid with black blood. Occasionally there is no inflammation of the brain or its membranes ; but in the majority of cases, and particularly when the horse has been violent, there are evidences of considerable inflammatory action. The stomach generally contains a more than usual quantity of food ; and where that viscus is empty, the large intestines are loaded with foul matter. In these cases, there is evident inflammation of the stomach or the intestines, according as either of them is thus overloaded.

M. Girard has recorded a case in which a horse died of staggers, with many of the characters of phrenitis. A large tumour was found in the right curvature, filled with sanious pus. The parietes of the tumour were much thickened, and dense bands ran across it from side to side. The small intestine was in many places contracted, and its surface was studded with numerous red and brown spots. There was no accumulation of food in any part of the digestive canal. In another case, there were two congested tumours in the stomach, each of them covered with bots, and containing a multitude of worms no larger than a hair.

The kind of Horses most exposed to this Complaint.—This disease is found more frequently in the stable of the postmaster and the

farmer than anywhere else. We shall know by-and-by how to account for this. Thirty years ago it was the very pest of these stables, and the loss sustained by some persons was enormous; but as veterinary science progressed, the nature and the cause of the disease were better understood, and we have not one case now where we had twenty at that time.

Nature and Cause of the Disease.—To account for this change we must consider for a moment the nature of the disease. I have already described it as a determination of blood to the brain—pressure on the origins of the animal nerves, and, by degrees, on the organic ones too, and consequent loss of consciousness and of life. What causes this determination of blood to the head? Over-condition, and too great fulness of blood. Ideas of *condition* in the horse, very different from those by which our forefathers were guided now prevail. It no longer consists in the round sleek carcass—fat enough for the butcher, if the flesh were eaten here—but in fulness and hardness of muscular fibre, and a comparative paucity of cellular and adipose matter: in that which will add to the power of nature, and not oppress and weigh her down.

The improper System of Feeding, a Cause of Staggers.—*The Coach Horse:*—The system of exercise is better understood than formerly. It is proportioned to the quantity and quality of the food; and, more particularly, the *division* of labour is more rational. The stage-horse no longer runs his sixteen or eighteen miles. I recollect one stage of two-and-twenty miles which the same team of horses used daily to run; and then, exhausted and famished, they were turned into the stable for the next twenty hours. The food was eaten voraciously—their (comparatively) little stomachs were distended with it before nature had sufficiently recruited herself to carry on the digestive process, and there it remained a source of general oppression and danger—and, either by the actual distention of the stomach, the vessels of that viscus were compressed and the flow of blood through them arrested, and more blood sent to other parts, and to the brain among the rest, and more to the brain, from its known sympathy with the stomach; or that powerful sympathy which undeniably exists between these two important parts, being sufficient to account for any cerebral derangement, without this mechanical obstruction of the circulation in the one, and extraordinary determination of it to the other:—whatever was the cause, these horses were sadly liable to staggers, and many of them perished every year.

Illustration.—The custom then prevalent of giving a considerable quantity of dry bran mingled with corn, was not a little inju-

rious, for few things are so indigestible as the husk of the wheat. In one of our largest breweries it broke out not many years ago as a kind of pest, and more than twenty horses perished in a very short time. The principals were dissatisfied, and they applied to another veterinary surgeon, who traced the malady to the inordinate use of dry bran, and which had not been long introduced into the stables. He forbade the use of the bran except in the form of a mash, in which the cortical portion of the wheat was somewhat macerated and softened, and the plague was immediately stayed.

The Farmer's Horse.—The farmer also used to send his horses out early in the morning, and keep them at plough for six or eight hours; and then they were brought home, and suffered to overgorge themselves, and many of them were attacked by staggers and died: or, if the evil did not proceed quite to this extent, the farmer's horse was notoriously subject to fits of heaviness, dulness, sleepiness; he had *half-attacks* of staggers: and then ensued another consequence, unsuspected at the time, but too prevalent among them—he became blind. The farmer was notorious for having more blind horses in his stable than any other person, except perhaps the postmaster: and it was a peculiar kind of blindness to which these horses were subject—amaurosis—glass-eye, palsy of the optic nerve. This nerve, as it winds its course across the crura cerebri, both before and after its apparent decussation, is particularly exposed to pressure when there is any determination of blood to the brain; hence in the human being a peculiar dizziness, an indistinctness of vision, an illusory motion of surrounding objects, or the creation of a thousand imaginary ones, constitute the very essence of vertigo, and are some of the earliest and truest warnings of the approach of more serious cerebral affection.

French Account of the Connexion of Amaurosis with Staggers.—The *Recueil de Médecine Vétérinaire* for June 1828 contains some interesting cases of amaurosis following the successful treatment of apoplexy. They are related by M. Berger Perriere. He tells us that the inhabitants of the neighbourhood of Bourgoin are very poor, and their horses ill-fed. The horses are worked without food from an early period of the morning to night-fall, and then turned into a meadow until ten or eleven o'clock. They are afterwards led to the stable for a few hours' rest, and at three or four in the morning are again turned out to pick up sufficient sustenance for the day; and this vicious system is pursued during every change of season, and however severe may be the labour exacted. The consequence is, that staggers is very prevalent there and may almost be considered as an epizootic.

M. B. P. visited two horses that had staggers. They were

dull; the head resting against the manger; the respirations low and deep; and the pulse small and concentrated. He purged them both:—one died; the other recovered, but in two months he became blind.

In the following month he had another case; it was a mare: she recovered from the staggers, but in two months she became blind.

Three months after this, he attended on a horse near Havre with staggers. The animal recovered, but, a month afterwards, it was observed that he lifted his fore-feet higher than usual, while the slightest noise frightened him, and his ears were in perpetual motion. On careful examination it was ascertained that he was perfectly blind in the right eye, and could see very little with the left. At the expiration of nine months, M. B. P. happened to see the horse again: amaurosis was then complete in the right eye, and the left eye was merely sensible to the distinction between light and darkness.

Staggers may probably lay the Foundation for Amaurosis.—I have a perfect recollection of one case, in which amaurosis appeared to be the consequence of staggers. Six weeks elapsed between the cure of the staggers and the occurrence of blindness. I confess that I did not then trace the connexion between these diseases; I was not in possession of these facts; and we have too few successful cases of staggers: but I can now imagine that occasionally, and oftener than we are aware (for the time which is interposed between the two may mislead us), the foundation for amaurosis may be laid when the origins of all the animal nerves, and these among the rest, and more than any of the rest, are oppressed and injured by the accumulation of blood.

The records of human medicine contain the history of the case of a female who was every day blind for a little while after her principal meals.

The System of Feeding the grand Cause of Staggers.—The system of horse-management is now essentially changed. Shorter stages, a division of the labour of the day, and a sufficient interval for rest and for feeding, have, comparatively speaking, banished *the sleepy staggers* from the stables of the postmaster: and the morning and afternoon labour of the farmer's horse, with the introduction of that simple, but invaluable, contrivance, the *nose-bag*, have rendered this disease comparatively rare in the establishment of the agriculturist. To whom we are indebted for these important improvements I know not: perhaps dearly-bought experience gradually taught the farmer and the postmaster wisdom.

Mr. White's Account of the Epizootic in Swansea.—Mr. White,

in the third volume of his "Treatise on Veterinary Medicine," gives an account of a disease, as he says, "very nearly resembling stomach-staggers," which had proved exceedingly destructive in the neighbourhood of Swansea, and particularly in the mines. One gentleman lost more than a hundred horses in one year; and some had lost their whole stock twice in a year. Had he, however, attended more to the symptomatology of the disease (and which, generally speaking, constitutes the excellence of his work), he would not have puzzled either himself or his readers, by his speculations on its contagiousness or epizootic character—circumstances which no one now believes to appertain to staggers. The consideration of this, however, would detain me too long; and my present purpose will be answered by warning you against being misled by the long account which Mr. White here gives of this malady, somewhat "resembling," but essentially distinct from, stomach-staggers.

The Causes of Staggers continued.—Old horses are more subject to staggers than young ones; for the stomach is weak, and the food is apt to be retained in it, and to become a source of general, and particularly of cerebral, disturbance. The vessels of the brain are weakened; they yield to a force which, in youth and health, they would have successfully resisted; and, having yielded, they have less power to resume their former energy, and once more contract on their contents.

Horses at grass are occasionally attacked by this disease; but they are generally poor, hardly-worked, half-starved animals, turned on richer pasture than their impaired digestive organs are equal to. Perhaps the weather is also hot, and the sympathy of the brain with the undue labour of the stomach is more easily excited, and a determination of blood to the brain far more easily effected.

The symptoms of staggers in a horse at grass are somewhat singular. The animal cannot easily find a place on which to press his head; but still he is throwing his weight forward, and he goes on in a straight line, until at length he is often found entangled in a hedge, or drowned in a ditch.

Mr. Percivall gives a very satisfactory illustration of the production of staggers in this way. He says, that when his father entered the service of the Ordnance (and in which he continued more than thirty years, with the highest credit to himself and advantage to the service;—he was one of the most straightforward practitioners, and the kindest friend, and the most honourable man, I ever knew), it was the custom to turn horses, which had become low in condition, but still well upon their legs, into the marshes, in order to recruit their strength. During

the months of July, August, and September, nothing was more common than an attack of staggers among these horses, and which his father rightly attributed to the luxuriant pasture they were turned into, combined with the dependent posture of the head, and the sultry heat to which they were exposed in marshes destitute of places for shade. They were relieved by the free and immediate use of the lancet, provided they were timely attended to.

A more general View of the Causes of Staggers.—Cases of staggers have occurred, in which the stomach was nearly or perfectly empty; but then we usually found that some of the viscera were overloaded. Even that cause of disturbance has also been wanting; but there has been inflammation of the mucous coat of the stomach and intestines. In a few instances no existing cause of this cerebral affection could be detected. The thoracic and the abdominal viscera were perfectly sound; but there was venous congestion everywhere, and particularly in the cranial cavity. In the greater number of cases, however, the disease was clearly of digestive origin; and we are warranted in regulating our treatment by the expectation that we shall find this in the particular case that is brought before us. We will not dispute whether it is the distention of the stomach, as first taught by Mr. Coleman, or inflammation of that viscus, as inculcated by Mr. Blaine; or whether it may not result from morbid irritability of any other portion of the digestive apparatus, or of the digestive apparatus generally; or whether it may not, although rarely, appear when the digestive organs have nothing to do with it. The prevalent cause is, plainly, distention of the stomach, or sympathy between the brain and *the stomach*; and on this view of the disease we are justified in acting: although it cannot be denied that the causes of staggers are far from being confined to the stomach alone, but may be found in abdominal irritation anywhere.

Very strange accounts are given of the quantity of food occasionally found in the stomach in these cases. There is a well-authenticated record of the stomach and its contents weighing sixty pounds. The stomach was not ruptured; but the coats of the viscus were so attenuated by the distention which such an enormous mass must occasion, that they were lacerated with the slightest touch. Mr. Percivall relates two cases, in one of which the contents of the stomach weighed forty-five pounds, and in the other fifty pounds.

The Importance of Inquiry as to the Cause.—We should never fail to institute the most diligent inquiry into the previous circumstances of the case. Does it arise from improper manage-

ment, to which the horse has been, in a manner, habituated,—long labour and fasting, and then the opportunity of gorging to excess? or does it proceed from accidental repletion,—from the horse having got loose in the night, and found out the corn or the chaff-bin, and filled his stomach almost to bursting? There is nothing in the appearance of the animal that will enable us to discover the cause; no yellowness of the skin, no twitchings of the panniculus carnosus, as some have described; no characteristic local swelling of the abdomen, for in most of these cases both the stomach and intestines are distended either with gas or with food. We must get at the truth of the matter as well as we can, and then proceed accordingly.

ON WOUNDS PENETRATING INTO THE CHEST OF THE HORSE.

EXPERIMENTS MADE WITH A VIEW TO ILLUSTRATE THEIR CONSEQUENCES
AND THE PROPER TREATMENT OF THEM.

By MM. U. LEBLANC, V.S., *and Principal Editor of the Journal de*
Méd. Vét., and A. TROSSEAU, M.D.

[Continued from vol. vii, page 634.]

7. Simple wounds of the parietes of the chest, with injection of blood drawn at the moment from the jugular vein, and without the introduction of air.

WE injected into the chest of a horse, about eleven years old, four pounds and a half of blood just drawn from the jugular vein of the same animal. We had taken proper precaution that as little air as possible should insinuate itself through the wound, which was effected between the third and fourth asternal ribs on the left side, and about six inches from the spine. Immediately after the injection, the wound was closed by means of the usual suture. By tapping on the chest of the horse, the resonance was distinctly heard, and the respiratory murmur could be readily detected by auscultation. After the operation the resonance was increased, which we attributed to the introduction of a certain quantity of air when we punctured the chest.

On being taken back into the stable, the animal ate with appetite a handful of hay which he found in the rack. Five hours and a half after the injection, the motions of the flanks were slightly laborious—the act of inspiration was much shortened—that of expiration was proportionably prolonged—the flanks were tucked up—the ears cold—and the pulse regular, full, and hard. On having recourse to auscultation, we could not detect any sound at the inferior part of the chest on the left

side, but a vesicular noise was evident at every other part of the chest.

The horse ate his litter.

On the following day there was nothing remarkable in the movements of the flanks, except that they were more than naturally prolonged, and that the expiration commenced with a sudden fall of the flanks. The warmth of the extremities, and of the legs, had returned.

On the following day the convulsive action resembling broken wind still remained.

The horse was destroyed at the close of that day, and about forty-eight hours after the injection of the blood into the chest.

We found in the left thoracic cavity a clot of blood, weighing two pounds, or thereabouts: its surface was covered with a kind of pellicle, analogous to what we should call a serous membrane. The colour of the superior part of the clot was of a lighter tint than the inferior part. The clot was generally of a very dark hue.

There was a small quantity of serosity, of a strong blood-colour, in both the sacs of the pleura, and these sacs communicated together.

The portions of the pleura which were not in contact with the clot did not present the slightest trace of inflammation. On the border of the wound which was made in order to effect the injection the subpleural vessels were distended with blood, and there was evident inflammation. The lungs were sound.

It appears by this experiment, that we may introduce with impunity, more than four pounds of blood into the thoracic cavity; and that the greater part of it is absorbed in the space of two days.

We varied this experiment by injecting the same quantity of blood, and not destroying the horse until ten days had expired. We found nothing but a fluid of the colour of wine-lees in the inferior part of the pleural cavity into which the injection was made. There was no appearance of inflammation, except about the edges of the wound.

8. Simple wounds, with the injection of blood drawn immediately from the jugular, and with the introduction of air for a greater or less length of time.

It would have been necessary here to have repeated that which we said of wounds in the chest, with the effusion of blood from the intercostal artery, and with the introduction of air, had we not remarked, that the blood which proceeds from the jugular changes more rapidly than arterial blood. It was easy to foresee this, because, in the first case, it was venous

blood ; and next, because the blood from the jugular, before being transferred into the chest, had remained for a certain time in contact with bodies foreign to the animal, and by means of this had already lost a portion of its life.

The alteration of the blood was, besides, regulated by the duration of the communication of air with the cavity of the chest. The general and local phenomena which the animals subjected to these experiments presented, were very analogous to those in the horses on which the first experiments had been made.

The only particular which it is necessary to mention, with regard to the variety of experiments related in this section, has reference to the quantity of blood thrown into the chest. In all our experiments we injected at least six pounds of venous blood. It results from this, that the clots of blood are large, and are less promptly changed by contact with the air ; but notwithstanding this, we have found that the influence of the air is most strongly marked, and at the end of three days only, the clot (which was probably formed at the first) becomes liquefied, and in part mingled with the pleural serosity.

We cannot speak of the changes effected in the blood in a less time than two days ; for as to all the horses that we opened three days, or a little less, had expired after the injection of the blood ; and most of them died in consequence of our experiment. We could retard their death at our pleasure, by cutting off the communication of the air with the chest from time to time ; but if that communication was constant, or through the medium of a large opening, the death of the animal was proportionably hastened.

9. *Simple wounds, with injection of blood drawn from the jugular a certain time before, and without the introduction of air.*

When the blood is not injected as soon as it is drawn from the vein, it speedily loses certain of its properties, or, if we may so express ourselves, a portion of its life ; or, at least, it acts more as a foreign body when it is introduced into the chest. The symptoms and the result approach nearly to that which we have just described, when we had injected blood as soon as it was drawn from the jugular, and had left a communication between the pleural cavity and the atmosphere : nevertheless, we remarked that the animals survived longer after the injection : this would be probable, considering that the interior of the chest was not in communication with the atmosphere. The clot of blood was more slowly decomposed, and the respiration was not so much disturbed during the few first days after the operation. The time, however, always arrived when the blood

began to be decomposed ; and then pleurisy commenced, and the death of the animal soon followed ; it was hastened in proportion to the quantity of blood injected, and the time during which it had been previously exposed to the external air. If we waited a considerable time before we injected the blood, it was already partially decomposed (physically, at least) when it was introduced into the chest. It happened in one experiment, that the blood was partly solid and partly liquid, and we had considerable difficulty in managing the portion that was coagulated, and liquefying it, and getting it into the syringe. The horse on which this experiment was made lived only four days. We have sometimes found in the chest almost all the blood which we had injected, but there was a great quantity of bloody serosity effused in the chest, and inflammation, which occupied almost the whole of the pleura on the side at which the blood had been injected. We thought, however, that it was not pleurisy alone that destroyed the horse—the inflammation did not seem to be sufficiently violent for that. It is more likely that the quantity of blood (eight pounds), and the decomposition which that blood underwent, had more effect in producing death.

10. *Simple wounds into the thoracic cavity, with the injection of blood running from a vein during different lengths of time, and also with the introduction of air for a longer or shorter period.*

In experimenting on this kind of wounds we observed all the consequences related in the preceding section, and those alluded to in a former part of this memoir as connected with the introduction of air into the chest. Death invariably follows in a little time, when a communication is permitted between the external air and the pleural cavities. This last complication of wounds in the chest is, however, more to be dreaded than any of the preceding. Not only is the decomposition of the blood accelerated, but suffocation is produced, and by which the horse is destroyed, much more than by any of the consequences of the pleurisy or pneumonia which are the necessary attendants on these wounds. These last are only beginning to appear when in these cases the horse is actually in the agonies of death. It is also reasonable to believe, that the state of decomposition of the blood has much to do with the speedy death of the animal ; for we shall see that we could have introduced into the chest a larger quantity of inert fluid, as water ; but which would not have produced so speedy a death, and perhaps not have produced death at all, if there is not a communication between the external air and the cavity of the chest.

[To be continued.]

ON STAGGERS IN HORSES.

By Mr. KING, V. S., Stanmore.

Messieurs Editors,

If the accompanying short history of the disease called Staggers, which was drawn up under the view I *at that time* had of the complaint, and which *then* proved such a dreadful pest to the whole country (as far, however, as my knowledge extended; though I was informed, *at that time*, that certain districts were free from it); if, I say, you think it worth notice, it is at your service. What has happened may happen again. You must *especially take notice* of the date, 1801. It appears from my memoranda, that the disease had been very prevalent at a former period, 1786-7; and then gradually seemed to be wearing away, until the year 1800, when it broke out with frightful severity about the middle of June, and its violence was unabated till the latter end of November, when it began to disappear again. According to my memoranda, the disease, in every succeeding year, became less and less frequent; and I can *now* say that I have not witnessed a single case of it for the last fifteen years. That certain disorders affecting the human as well as the animal constitution do disappear and return, from causes to us seemingly undiscoverable, is, I believe, pretty well established. In referring to the date, I *was not then* acquainted with either Mr. Blaine's or Mr. White's publications. In referring to memoranda made in succeeding years, I am obliged to confess that many horses which were physicked as a preventive, occasionally fell under the complaint; but their recovery was in a great proportion in favour of the treatment. I have not set about *any corrections or emendations*, but sent it just as it was at the time *indited by me*, which will account for some parts of the paper appearing like a repetition of this Preface. It was drawn out at the request of a worthy medical friend *then* residing at Rickmansworth (*now* no more), without the slightest view to publicity. And *now*, if you send it before the profession, I shall only beg of its readers to receive it with all the courtesy they can possibly invest themselves with; and remain,

Messieurs,

Your's, &c.

F. K.

[We have great pleasure in placing this paper of our old and valued friend in the foremost ground in the first number of the

year. It is a veterinary curiosity, as containing the opinion, four-and-thirty years ago, of a careful observer and sound practitioner, respecting (at that time) one of the most murderous epidemics to which the horse was subject. The paper and the writing bear about them sufficient marks of age. The communication is otherwise exceedingly valuable].—EDIT.

VARIOUS have been the opinions entertained with respect to the cause of the disease here treated on, and, among them, the *most prevailing* one was, that the food was the cause. It is certain that, on inspection of the dead body, the stomach is always found full; but there will not be found such a degree of distention as to cause any interruption of its functions. I think the food has a very small share, if any, in the production of the disease, as it most certainly affects horses of every description, and *under every circumstance of diet*; and also of rest or work. I am led to believe that it proceeds from some morbid atmospheric cause, which most likely we shall never be acquainted with; for, since the years 1786-7, the disease has occurred but very rarely till the *last year*, 1800, when it again made its appearance about the middle of June, proving generally fatal, and occurring very frequently till the latter end of November, when it began gradually to disappear.

It appears from experience, that horses which are or have been on *after pasture*, in a season when the disease is prevalent, are affected with it perhaps more frequently than in any other situation; which, most likely, is the reason why (as an article of food) a fine succulent state of herbage is looked to as a cause. But it must be remembered that *in the year 1800 not a blade of grass was to be seen from the hay-time till the beginning of September*, and the disease occurred during that time more frequently than at any time after.

No publication* which I have ever read conveys to me any thing like an accurate, clear description of the disease. I shall, therefore, attempt to describe its symptoms just as they appear to me.

According to my observation, it is ushered in by a degree of languor and loss of appetite: the vessels of the conjunctiva in the early stages appear rather empty; and it, as well as the lips and mouth, assumes a dirty, straw-coloured appearance, which, as the disease proceeds, acquires a deep saffron tinge. The mouth emits a faint fetid smell, and is generally covered with a white clammy froth. The pulse, in the early stages, is not dis-

* See Preface.

turbed ; and I am inclined to think, that, could the animal be restrained from the violent exertions it is disposed to make, it would appear low all through the disease. The respiration is not affected, except occasionally, from the above-named cause. There is always a most obstinate costiveness, and the urine is very high-coloured, and generally thrown off with a violent effort. As the disease proceeds, loss of sensibility comes on, and the animal reels in his walk, and, with his eyes vacantly staring, presses forward against any object which may happen to be in his path, and, if left to himself, would infallibly find his way into a ditch or pond ; but if, as is generally practised, he is tied to a swivel, he runs round till he falls. I have seen at one time, and apparently all attacked with the disease at the same moment, three horses, out of a team of four, belonging to farmer Chapman, of Perrivale, tied up in the manner described. I have known, though rarely, the complaint come on and death take place in a few hours, with strong marks of putrescence. But generally, I believe, it does not acquire its full powers for four or five days, if left to itself ; but, as is too often the case when it has not made sufficient progress to be observed by the driver (and very often when it has), the horse undergoes his *usual fatigue*, and it is *by that means* speedily brought to a dreadful height.

The distinction of mad and sleepy staggers I think not necessary, as the disease is precisely the same in every feature, except that in the one the animal holds the head to the ground and *quietly* inclines forward, while, in the other, he moves on in a *furious* manner.

In the course of the disease, not unfrequently the horse yawns, and sometimes stretches himself, which, according to my observation, is a bad omen ; for those I have marked doing so, have generally died. So, likewise, is cold clammy sweat breaking out partially or generally, a bad symptom ; and a still worse symptom, after which I never knew recovery, is the horse neighing upon being roused by the opening of a door, or any noise. On the other hand, if sense and desire for food return *gradually*, there is hope of recovery ; which is much strengthened if the costiveness gives way, and the extremities become warm and swell, or if a determination to the nose and lips takes place. But it sometimes happens that, towards the end of the disease, a *sudden* alteration in some of the symptoms takes place, apparently for the better, such as taking a little fluid and becoming calm : but this is *delusive*, as a person acquainted with it would discover, by the then quickened state of the pulse and the coldness of the extremities, and they being at the same time

so exceedingly thin, that it would appear as if the fingers would meet between the tendons; in such case recovery cannot follow.

I have known, in two or three instances, a slight degree of inflammation take place in the nose and lips, succeeded by a dry slough of the skin, without any pus secreted; the cicatrix forming very slowly, and a perfectly bald surface being left. All those horses did well without any assistance.

As difference of opinion has been entertained of the cause, so likewise has it been as to the seat. Farriers, generally, imagine the head to be principally affected, by inflammation either of the brain or its membranes, and they treat it accordingly, by bleeding, blisters, setons, and also drenches *famed for the cure of staggers*; and the application of stimuli to the pituitary membrane. Evacuations from the intestines have always been deemed necessary; which, however, are seldom procured, if any degree of delirium is present, as the animal is then so unmanageable that medicines can very rarely be given with any degree of certainty; or, if given at all, at that period the stomach and bowels are become so torpid and insensible, that no effect is produced.

Locked jaw is said to attend the disease, but *I never observed it*; as, though often, great resistance is made to a balling-iron, or horn, yet there is no fixed contraction of the muscles.

I have, by chance, given medicine in form of a ball, when the animal was in this furious state, and yet lived, perhaps, thirty hours after; and, on examination of the stomach, I found the paper in which the ball was wrapped a very little way within the cardiac orifice, between the stomach and its contents.

I shall now offer a few remarks on the remedies generally used. The good effect arising from bleeding I consider very doubtful: if it is practised, it must be in a very early stage, and in small quantity, for the blood does not exhibit the least mark of inflammation, but acquires a colour more and more dark as the disease proceeds, and *sometimes* will not coagulate firmly, but appears in a broken dissolved state; and, I am satisfied, the more blood is lost, the sooner the subject sinks. The serum is always of a deep yellow. Nor will my observation warrant me to speak in better terms of blisters, and the insertion of rowels in different parts of the body: blisters irritate very much, without producing any degree of inflammation worth notice; and rowels inflame very little, and never suppurate kindly before a crisis has taken place, and sometimes, though not commonly, run into gangrene, and kill the animal that way. I shall pass over a number of drinks famous for curing staggers, which have repeatedly failed with me, and which, I believe, have gained repute, either from being administered by designing people (in order to obtain a character)

when the disease was not present, or by others, who were not able to distinguish between the disease and a common indisposition.

My remarks have led me to conclude, that the complaint is not of an inflammatory nature; and always finding the stomach charged, and the small intestines lined with a very tenacious ropy mucus, I have judged it expedient to unload them as soon as possible, which I have every reason to believe would succeed if taken up *in the beginning* of the disease, and before it is aggravated by fatigue; but, as I have before observed, it unfortunately happens that it seldom comes under the eye of the veterinarian before it has acquired nearly its height; and, *then* considering no time was to be lost, I have given, with a bold hand, different medicines, as aloes, calomel, emetic tartar, carbonate of ammonia in great and frequent doses, with camphor and asafœtida singly and variously combined, and at the same time what liquids could be got down, but they were generally in a very insufficient quantity to have any good effect; I must confess, that too frequently my expectations have not been answered when the disease had taken such strong hold; though it must be allowed, that the costiveness attended with such torpor of the intestines, their horizontal situation, and a complete refusal of liquids, all tend very much to weaken the expectation of a speedy effect from cathartics. Still I consider evacuation from the intestines as a point which must not be neglected, and on which the cure greatly depends.

The treatment which has under my hands proved most successful is the exhibition of aloes from \mathfrak{z} iss to \mathfrak{z} iiss joined with from \mathfrak{z} j to \mathfrak{z} ij of gran. parad., according to the strength of the horse, and the advanced state of the disease; both being reduced to fine powder, and given in warm ale, giving afterwards some more ale to wash it down the mouth; and this repeated every four, six, or eight hours, as may be necessary, till purging is produced. Clysters are a great auxiliary; and one compounded of three pints of thick gruel, with the addition of about four ounces of olive oil and the same quantity of salt, is as good as any: they should frequently be repeated. Vinegar thrown up the mouth with a womb syringe refreshes much, and corrects that fetid smell which it emits: the body, not forgetting the head and legs, should be frequently and well rubbed, and any quantity of gruel or plain water the horse will take, as likewise any thing he will eat, may be allowed. In case of determination to the lungs, or any of the abdominal viscera, blisters may be applied with some advantage: but that is a very rare occurrence. It is a disease which generally after evacuations terminates favourably. As the stag-

gers seldom makes it appearance in a stable without several horses being seized with it, and, sometimes going through the whole stable, it naturally becomes a question, how can it be prevented from spreading? I am inclined to believe it not communicable from one horse to another, but depending on their all being exposed to the same cause; the effect being produced sooner or later according to the constitution and the manner of treatment. As preventives, bleeding, and rowels, and medicines used as alteratives, have been employed, and have repeatedly failed. Wherever I have been called, I have uniformly advised a brisk cathartic to the other horses; and wherever that has been employed I have not known* any one (except a mare that gave milk and took her physic while at grass) fall afterward with the complaint: this has served to strengthen my opinion of the treatment I have employed. Under the above circumstances, I have given physic to twelve different stables of horses, all in the year 1800. I therefore think it a fair inference that it was of service, and recommend it as the most likely mode of prevention I am acquainted with.

LA LÉPRE BOUTONNEUSE, AND FARCY IN THE HORSE, CONSIDERED AS IDENTICAL DISEASES.

By MM. HAMONT, *Founder and Director of the Veterinary School, and* D. F. PRUNER, *Professor of Anatomy and Physiology in the School of Human Medicine at Abou-Zabel.*

[It is pleasant to see the professors of the two branches of medicine uniting together in the pursuit of medical science, and each drawing from his peculiar resources illustrations for the common good of their respective patients. M. Pruner had, in the former part of this Essay, given an interesting, and, if we may express an opinion on the point, a valuable account of the Elephantiasis of the Greeks, the Black Leprosy,

*Est Elephas morbus, qui propter flumina Nili,
Gignitur Aegypto in mediâ, neque præterea usquam.*—LUCRET.

This, however, concerns the medical man more than the veterinarian, and therefore M. Hamont shall take up the tale.]

FARCY, *Scabies equorum* of the Latins;
Saragé of the Egyptians;
Etti-Salé of the Wahabites.

THIS disease exists in many different parts of the world. It is found in France, Italy, Germany, England, Syria, Egypt, Asia-

* See Preface.

Minor, and Arabia. It was known to the ancients, but we possess few documents of its march or its development, and we are ignorant of the place whence it had its origin. It is an affection peculiar to the horse, the ass, and the mule, but some have thought that they had observed it in the ox. It consists of the existence of tumours on the skin of greater or less size, and which take on them the form of chaplets, knotted cords, buds, or buttons, round, oval, flat, globular, adhering to the skin, or being immediately beneath the skin, more or less hard, and finishing by softening and suppurating. At the commencement of the eruption pressure on the tumours causes considerable pain; the lymphatic vessels are much developed, and can be plainly felt; there is infiltration and tumefaction of the limbs, with pain and great swelling of the testicles, and of the sheath of the penis, and of the exterior lymphatic ganglions; and also anasarca.

These little tumours or buds appear on every part of the body; on the abdomen, the scrotum, the anus, the tail, the back, the loins, the shoulders, the neck, the head, the eyelids, the conjunctiva, the membrane of the nose, the nasal septum, the coronet, and principally on the extremities, where they follow the course of the lymphatic vessels. They often appear first of all on the extremities, or on the head or neck.

A single button is perhaps first perceived, which is speedily followed by many others. The skin becomes thin, it ulcerates, and discharges a matter sometimes thick and white, and sometimes grey or bloody, and sometimes viscid and yellow: now it will fall in drops, and presently it will harden upon the skin. The ulceration increases—the discharge is fetid; it has a smell *sui generis*. Fungous excrescences, elevated, rounded, bleeding, appear; to these succeed large ulcers, covered by a yellow thick crust, thin towards its edges. On the limbs of many horses we have seen tumours of a scirrhus nature, and they have become of a considerable size.

In the nasal cavities the buds are generally small—occasionally large; they are, at first, hard—they soften; they extend considerably; they render the septum of the nose, and the bones of the nose, carious; and there is an abundant and fetid discharge, variable in colour.

These buds are confined to the exterior membranes. Under the skin, and in the interstices of the muscles, voluminous and hard tumours are frequently formed.

All four limbs often enlarge at once. After a certain time, the heat and tenderness observed at the commencement of the disease disappear. The softening of the buttons causes the horn to be detached at the coronet, and pus is thrown out

between it and the sensible parts beneath, and the hoof at length falls off. We have now under our care horses attacked with farcy on one or both legs, and confined to those parts, although the disease has been of long standing.

When farcy attacks the eyes, it produces very considerable enlargements and infiltrations of the lids; and which terminate in covering the whole globe of the eye, and depriving the animal of sight.

The mucous membranes are almost always pale—infiltrated; the eyes weeping, and bleary; the hair changes its colour—it falls from some parts of the body; the skin is always covered with scurf, which the comb raises with difficulty; there is continual itching, and the horse gnaws and blemishes himself in various parts. Many of the buds now become ulcerated; excrescences appear on different parts; an infectious smell is perceived at a considerable distance. The respiration becomes difficult—loud; the matter which is secreted by the ulcers speedily dries up, and the horse is covered with scabs. Many horses continue to work without much pain or difficulty; they preserve their appetite—it even becomes voracious; but notwithstanding this, they slowly, but constantly, lose condition. The discharge from the ulcers becomes more fetid—the urine thick and yellow—the respiration accelerated; the emaciation is now more rapid, and the animal weaker; and at length he dies of marasmus. Some horses, however, live many years, covered with farcy ulcers.

Farcy ranks among the diseases of the lymphatic system: it is inflammation of these vessels, the lymphatic ganglions, and the cellular tissue. It may be the consequence of intestinal irritation, and has been compared with scrofula and syphilis by modern veterinarians.

On examination after death we find the farcy buds filled with thick white pus, or with a blood-coloured fluid, and thick yellow scabs cover the ulcers. Some of the ulcerations are confined to the superficial portion of the skin, attacking the bulbs of the hair; others perforate the dermis: the skin is hard, thick, white, and difficult to cut; and there are often abscesses in the very substance of the dermis, where they form little pouches: other small abscesses are subcutaneous. The white parts of the limbs are thickened, and the skin there resembles that of a hog. There is little blood in the frame, and where the white colour prevails it has a remarkable appearance. Often there is an effusion of a citron-coloured fluid, more or less abundant, under the skin. There are reservoirs of pus in the interstices of the muscles; the lymphatic vessels are dilated—evidently so; the subcutaneous ganglions

are hypertrophied, sometimes hard, sometimes soft; black, or red; and, on pressure, suffering a puriform matter of varied colour to escape. In the chest and the abdomen there are the same alterations. The mucous membranes are pale. The vessels which are ordinarily red are scarcely seen; ulcerations, more or less extensive, are found on the cartilaginous septum of the nose; the septum is occasionally perforated; and there are farcy buds in a state of softening where the integument and the mucous membrane meet. In some the lungs contain miliary or pea-shaped tubercles, and these are also met with in the liver and in the spleen; but these alterations are not frequent, and in many horses there is not a vestige of them. There is little blood in the large vessels: the tissue of the heart is discoloured.

In the carcasses of some horses the bones are farcied, and present deep ulcerations: the bones which are oftenest affected are the nasal ones. The museum of the school at Alfort contains bones, carious and ulcerated, from the enlarged limbs of farcied horses; and Professor Dupuy, in his work on Glanders, relates many cases of very great disease in the bones.

Vast abscesses are often found in the testicles; and farcy is often accompanied by mange, and softening of the liver: the latter is a frequent termination of it in Egypt.

It has been supposed that farcied horses are very subject to glanders, and that glandered horses usually have farcy. This has been asserted and believed by a great many medical men of deserved eminence, and they have not scrupled to place the two diseases in the same class. This opinion has at the present day many partisans. Repeated observations, however, which we have made as well in Europe as in Africa and Asia, have established a distinct line of demarcation between glanders and farcy. The first seems to have its seat in the septum which divides the nasal cavities, often, perhaps, extending a third of the way down the mucous membrane of the trachea; while the second consists of a profound lesion of the lymphatic ganglions and vessels, affecting many systems at once, as, for example, the skin and the mucous membranes. Many glandered horses die without having had a symptom of farcy; while, on the contrary, we meet with many farcied horses which present lesions similar to those of glanders, as chancres and nasal discharge. This it is, doubtless, which has caused old practitioners, ignorant of anatomy and physiology, to assert that farcy is cousin-german to glanders.

If farcy, as has been shewn, attacks the skin and the mucous membranes, ought we to be surprised if some farcied horses have ulcers on the nasal membrane, or discharge from the nostrils? It is always the same disease; and if we had closely

marked its progress when it extended to the interior of the nose, we should have recognized that which belonged to glanders, and that which was the product of farcy. We have no doubt, however, that both diseases may exist at the same time in the same animal; but we may always distinguish that which belongs to the one and to the other, and we ought to consider their joint presence only as a fortuitous complication.

Farcy is always most difficult to cure when the mucous membranes are affected, and tumours develop themselves on the septum of the nose, which they perforate or render carious, like the chancres of glanders. That fact was known to the old veterinarians, and they announce it by saying that farcy is incurable when it has degenerated into glanders. Ordinarily farcy develops itself without any of the principal functions of the animal being disturbed. Medical men say that an eruption is generally preceded by febrile symptoms. In this disease in the horse no such complication exists. There are no precursor characteristic symptoms.

Farcy is sporadic, enzootic, and epizootic; prevailing often among great masses of animals, and extending over large spaces of country. We often see it commit sad ravages among our cavalry regiments. It shews itself all at once, and many animals are attacked at the same time. It makes rapid progress among those whom it has attacked, and destroys its victims in a space of time too short, but varied by an infinity of causes. It rages with equal violence in the country. It is a dreadful disease in Egypt, and the regiments of his Highness have it constantly among them. The infirmaries of the veterinary school always contain a great proportion of farcied horses; indeed, we can affirm without fear of contradiction, that the greater part of our sick horses are ill with farcy. Before the institution of the veterinary school, almost every animal attacked by it soon became for ever unfit for service. In Arabia it is confined to certain districts. Abandoned by the owners and the attendants, the animals rarely recover, or, if there are some instances of the sudden disappearance of the farcy tumours, they appear afresh after a greater or less period of time. The disease, until lately at least, has been considered as incurable in Egypt, but the Arabs regard it as susceptible of cure, if it has not been too long neglected.

When farcy first develops itself in the extremities it is more obstinate, more serious, more to be feared than when it attacks any other part of the body; and we may almost despair of a favourable termination, if the testicles, the sheath, and the extremities, are tumefied and engorged at the same time; and more especially may we fear if farcy buds are developed on the globe of the eye, the cheeks, the lips, and the membrane of the nose.

Among the predisposing causes, authors have cited the following: "Disease of the blood—lymphatic temperament—the neighbourhood of rivers, or low and marshy places subject to inundations." It is also said, that "farcy may be produced by the use of irritating food in undue quantities, as corn, or other fodder, dry, dirty, mouldy, putrid. New hay also has occasioned intestinal irritation, which by sympathy may become the cause of farcy eruption." (Hurtrel D'Arboval.)

Filthy and cold stables, where the water runs along the sides of the walls, unwholesome water, and continual work in the water, have also given rise to farcy.

M. Hurtrel D'Arboval combats the opinion of those who maintain that all the causes of farcy are of a debilitating nature. He sees in all of them signs of irritation. According to him, the effects of farcy are produced according to the predominance of the lymphatic system. It is positively demonstrated, and placed beyond doubt, that farcy, the seat of which is in the lymphatic vessels and ganglions, attacks in preference the horses in which these organs predominate. The predominance of a particular system, may it not be indicated in animals by the colour of the hair? May not the different shades, which the natural covering of the horse presents, indicate the peculiar nature of his temperament? In human medicine, do we not know that fair people are more disposed to scrofula and phthisis pulmonalis than the brown or the black? May not the same things exist in veterinary medicine? Does not the observation apply to the appearance of melanosis in grey horses alone?

We know from experience that black horses are, in Egypt, far less susceptible of farcy than the grey, the sorrel, or the bay.

We cannot avoid being astonished at the confusion which prevails in veterinary works on the origin and causes of farcy. That disease having been observed only in some parts of Europe, and in climates and under influences nearly analogous, an exact etiology of it cannot be established, without all the conditions attached to its development in all the different countries in which it exists having been observed and studied.

A great variety of circumstances, acting at once on the interior and the exterior of domesticated animals, are concerned in the production of farcy.

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[To be continued.]

TETANUS.

By Mr. W. F. KARKEEK, V.S., Truro.

A BRAMBLE at the eye is larger than an oak at a distance; and thus every man is of importance in his own view, and imagines that he could communicate something of profit or pleasure by recounting the results of his individual experience.

But the most remarkable occurrences in our practice are forgotten if they are merely inserted in our *case-books*; and by not making public the results of our experience, much useful information is withheld from the world, since all agree that one fact is more valuable than volumes of theory.

In the four following cases of *idiopathic tetanus*, which were successfully treated, or, to speak more correctly, that recovered, I may be vain enough to suppose that I am giving the profession something new, when, in fact, similar cases may have happened to many;—but how should I know this, unless those gentlemen favour the profession with the results of their experience?

On the disease in question much useful information has already been elicited through the medium of *THE VETERINARIAN*; and I have not a doubt but that much more will be known, for I differ in toto from the late Mr. Abernethy, who was of opinion that Hippocrates knew as much concerning tetanus as is known at the present time. Tetanus was regarded by Hippocrates as certainly mortal: now, as we succeed sometimes in effecting cures, it is but just to conclude that some improvements have taken place since his day.

CASE I.

A bay hackney mare, seven years old, and expected to foal in about two months, was, when she was first discovered to be unwell, immediately taken into the stable by the proprietor, a farmer, and bled, clothed warmly, and about twelve ounces of castor oil administered to her.

On account of the great difficulty that was experienced in drenching the animal, I was sent for the following evening, when I found the jaws nearly closed. I succeeded in giving her 3x of Barbadoes aloes in solution; took away two gallons of blood, and applied a strong blister to the spine.

The following day, I gave 3ij of aloes, and 3ij of powdered opium, mixed with a small quantity of water; and ordered her to be repeatedly clystered with thin gruel in the course of the day.

3d day.—The jaws as rigid as ever; the aloes had had no

effect; the pulse, which at first was not affected, had become quick and intermittent; the breathing was at intervals, particularly when excited, laborious; and the countenance had a wilder and more haggard appearance. I bled to the amount of four quarts, being afraid to draw more blood, in consequence of her being so near her foaling time. I ordered $\mathfrak{z}\text{ij}$ of opium, and $\mathfrak{z}\text{j}$ of Barbadoes aloes, morning and evening; the clysters to be continued, and a warm sheep skin to be applied over the back and loins. She was still costive; the clysters brought away a few hard slimy pellets at each ejection.

For about a week this plan of treatment was pursued; thin gruel and ground oats, and bran mixed with water, were given her, which she sucked through the teeth. The opium was increased to $\mathfrak{z}\text{ijj}$ daily.

10th day.—The disease has existed for ten days—the jaws are as rigid as ever, and the animal has become very weak. The proprietor talks about administering a leaden ball, as a specific.

11th day.—A slight remission of the spasms is observed, and purging is produced for the first time. The suffering animal ate some grass that was offered her. A slight œdematous swelling is observed underneath the abdomen. From this period she began to recover; the dropsical swelling gradually increased in size, until it assumed a formidable appearance, and the time of the remission of the spasms gradually lengthening. In fact, exactly in the same ratio as a fluid was deposited in the cellular structure of the skin, did the muscles become less rigid. The progress of the cure was exceedingly slow; the swelling was punctured with a lancet, which soon removed the enlargement; the animal was again turned to grass, and in about six weeks she was delivered of a fine colt, and both at this period (now six years ago) are in perfect health.

CASE II.

A grey gelding, seven years old, on the 21st May, 1832, was observed by the groom to have some difficulty in swallowing, and not to eat with his wonted appetite. He gave him a dose of physic ($\mathfrak{z}\text{vj}$ of aloes), but on the following morning, the proprietor observing him to move his hinder limbs with difficulty, he was immediately placed under my care.

I found him labouring under every symptom that characterizes tetanus. The back and loins were shrugged up; the tail elevated and tremulous; the ears erect; the eyes wild, and squinting outwards, appearing as if forced out of their sockets, with the haws protruding over them. The nostrils expanded, the countenance

haggard, and the whole body as stiff and awkward as a log of wood.

The jaws were not completely locked, but sufficient space was left to allow a drench to be administered. The horse having taken ziii of aloes on the day previous, I ordered ziv more; to be bled to the amount of two gallons, and a strong blister to be applied along the whole length of the spine. Previous to this, the animal was moved with great difficulty to a quiet place, that he might not be disturbed.

23d.—The spasms are more violent; bled to the amount of six quarts; ordered opium ʒiss , camphor ʒj , Barbadoes aloes ʒj ; to be given morning and evening: and laxative clysters administered three times in the course of the day.

24th.—Bled six quarts; washed off the old blister, and applied a fresh one. Opium ʒij , camphor ʒj , aloes ʒj , given twice in the day; clysters as before.

25th.—The bowels, which hitherto had been sluggish, now yielded copiously. Ordered the medicines as before.

26th.—The bowels are purged; discontinued the aloes and clysters, and administered opium ʒiij , camphor ʒj , twice a day.

27th.—A sheep-skin is applied over the loins, and the medicine given as yesterday.

28th.—Bled six quarts; gave opium ʒiij , and camphor ʒj , twice in the day.

29th.—A slight œdematous swelling is observed underneath the abdomen. Medicine given as before.

30th.—The spasms are neither so violent, nor so frequent; the swelling has increased considerably during the night. The bowels are relaxed, and the jaws less rigid.

It would be tedious to describe the treatment that was pursued after this period; suffice it to say, that the dropsical swelling increased to an enormous size; and, exactly as was witnessed in the former case, in proportion as the swelling increased tetanic symptoms disappeared.

Punctures with the lancet were made, and a rowel introduced, which soon removed the fluid that was effused. In a short time the animal was able to take gentle exercise; which, with liberal food, as malt mash, carrots, and green meat, with the daily administration of vegetable tonics (gentian, calumba, and ginger combined), and now and then a slight aperient, the cure was completed. The animal was shortly after sold by the proprietor to his brother, James Daubuz, esq. who took him into Sussex, where he has been hunted ever since.

Now it must be admitted, that these two cases are extraordinary instances of the removal of a disease from one place to the other,

by the translation of inflammation, and, consequently, irritation, to a different part. I have had numerous cases of tetanus; indeed, it has been my lot to witness a great many, for I believe that the climate of our country is favourable to its production: but I never witnessed such terminations before or since. I suppose that the disease occurs so frequently in the west of Cornwall on account of the land being surrounded almost by the sea, and bordering so closely upon it. I have likewise observed that this disease is more prevalent in marshy situations than in places which are dry and elevated; and I have more easily succeeded in effecting cures when they have happened to horses living in high, dry, and elevated spots.

The cases that I have succeeded in curing have been all *idiopathic*. I have met with several instances of traumatic tetanus, but was never so fortunate as to produce a recovery. I have seen a case of the latter kind occur, when the skin underneath the eye has merely been broken by the lash of a whip. In this case the wound had entirely cicatrized.

I recollect, just after I had commenced practice, that I was attending a horse for a slight wound on the inside of the thigh, in a village called Perran. The farm of the proprietor was bounded by the Atlantic; the stable was situated on a low, marshy, damp soil. The wound was nearly healed, and, it being the summer season, the animal was turned to grass; when, in three days, tetanus supervened, and on the next day the animal died. The following were the appearances of the body on a post-mortem examination, transcribed from my case book.

Sectio Cadaveris.—On removing the skull, the dura mater was found slightly vascular; the pia mater was likewise so. The cineritious portion of the cerebrum was considerably inflamed, particularly on the right side. The plexus choroides in the right ventricle, which contained some serous effusion, was loaded with blood. The thalamus on that side also slightly vascular. Left ventricle perfectly healthy. A small quantity of limpid fluid escaped on opening the arachnoid membrane. The immediate covering of the chord was vascular; but the spinal chord itself was firm, and not at all inflamed. On examining the thorax, I found the lung highly vascular, and full of *red florid blood*; and I particularly observed the sympathetic nerve and its ganglia to be decidedly inflamed*. The sensible portion of the stomach

* Mr. Alexander Henderson, V. S. to the Queen, describes similar cases in *THE VETERINARIAN*, vol. v:—"The horse," he says, "was excessively irritable, became rapidly worse, and died in about *thirty hours*. On opening him I found the stomach unusually distended with food, and an increased redness on its surface, with several crimson spots on the pyloric

and some of the small intestines were inflamed; red patches were observed on the latter, at different places. The liver was pale, and its texture loose and broken; and the bladder contracted.

This was the first case of tetanus that I ever met with in my own practice, and I believe I may say with certainty, that I never met with any since in which the brain shewed so much inflammation, and so much organic lesion.

In the case that I alluded to, as proceeding from a slight wound produced by a blow from a lash of a whip underneath the eye, the vertebral canal was filled with a fluid of a yellowish colour, and the investing membrane of the cord was considerably inflamed; but the brain appeared perfectly healthy, except a slight vascularity of its investing membranes. In this case the sympathetic nerve, with its ganglia, were decidedly inflamed. The stomach and bowels likewise bore marks of inflammation; and the lungs were gorged with florid blood.

The following are the observations made in examining a horse nearly thorough-bred, belonging to a merchant of this town, that died of idiopathic tetanus:—

Bay horse, aged, 1830, June 5th. I will pass over the treatment that was pursued: being a very irritable horse, he died on the 6th day. He was treated by an empiric, for two days, for a “*cold in the loins.*”

Sectio Cadaveris.—The viscera of the abdomen, with the exception of the bladder, which was considerably contracted, were inflamed; in some places very highly so, particularly the duodenum. The lungs were rather more than usually red, and gorged, as it were, with blood. The membranes of the larynx and bronchial ramifications were considerably inflamed, and the sympathetic nerve and its ganglia on the thorax were decidedly more than usually vascular. The brain appeared healthy in every respect, except some increased vascularity in its investing membranes. The spinal chord was firm and healthy, but its immediate covering was slightly vascular.

In another case, I found the brain perfectly healthy; the spinal envelope slightly inflamed; but the stomach, at its pyloric orifice, possessing a high degree of vascularity. The duodenum was likewise vascular, and the branch of the sympathetic that surrounds the stomach considerably so.

The conclusions which appear to me naturally, or almost necessarily, to result from these cases, must form the subject of another communication.

portion. The duodenum and jejunum were much inflamed, and the lung gorged with blood. That, however, which attracted my attention more particularly was, the unusually vascular appearance of the large sympathetic nerves through their various ramifications in the chest and abdomen.

EXTRACT FROM THE PROCEEDINGS OF THE VETERINARY SCHOOL AT ALFORT, DURING THE SCHOLASTIC YEAR 1833-34.

By M. RENAULT, Professor at that School.

CLINICAL AND SURGICAL CHAIR.

DURING the present session, 570 animals have been admitted into the infirmary of this school, viz. 382 horses, 5 asses, 1 goat, and 182 dogs.

Of the 382 horses, 209 were discharged cured, or in the way of being so; 19 died, and 45 were abandoned to the school as incurable, and destroyed.

Of the five asses, one died: he had been affected with tetanus.

Of the 182 dogs, 129 were discharged cured, and 46 died, or were destroyed after having been given up by their proprietors. It should be recollected, that the animals sent to us have generally laboured under very serious diseases, and that often they had been already treated without success, or had been abandoned, and then, as the last chance, had been brought to our infirmary.

The number of animals submitted to treatment in our hospitals, was 95 more than in the last year. This evidently proves the increasing confidence which the owners of horses and other animals in our neighbourhood place in us, and also the increasing advantage of the school in the augmentation of the means of practical instruction which are placed at its disposal.

Unfortunately, the absence, during 18 months, of an assistant, that was indispensable to him, did not permit M. Renault to give all the clinical instruction which he wished to have done. Perhaps that professor would have felt himself incompetent to the number and extent of the duties which from this cause devolved upon him, had not M. Delafond kindly devoted to attendance on the infirmary a portion of the few leisure moments that were left to him. M. Renault here offers to him a public acknowledgment of obligation and gratitude.

1545 horses, 10 cows, 23 pigs, 31 sheep, and 12 dogs were also brought to the hospital for advice: it was given with regard to all, and on several of them surgical operations, more or less serious, were performed.

The pupils of the fourth year have attended on these animals when the proprietors in the neighbourhood wished that they should be visited at their habitations.

The total number of animals that have been either received into the infirmary, or with regard to which advice has

been given by the professor, and that have been visited by the pupils, amounts to 2143.

Of the diseases that were treated in the hospital, we content ourselves with noting the following:—

GLANDERS.—We have had about the same number of glandered horses as in the last year; and we must repeat, that, in spite of all the care that has been bestowed upon them, and the strict attention which has been paid to the administration of medicines the most likely to have good effect, and the power of which has been vaunted by others, we are not able to relate a single case of the complete cure of *chronic glanders*.

Seven horses were returned to their owners apparently cured—all the recognizable symptoms of the disease had disappeared; six of them were, after some months, returned to us more decidedly glandered than before: they were destroyed. The seventh has now been away three months; but we reckon upon seeing him again about the same time as the others, and in the same state as that in which they returned.

As to horses in which glanders is beginning to appear, there is no doubt that they may be treated with fair hope of success. They must be withdrawn from the influence of the general or peculiar causes of this disease; and then a good constitution in the horse, and rigorous attention to diet, appear to us to be the conditions of cure. The medicines which are generally employed are more injurious than beneficial.

Experiments ought to be made on a grand scale in order to determine the contagiousness of this disease. If glanders is contagious, the sanitary measures that have been opposed to it are altogether insufficient, or have been very negligently observed; or, if it is not contagious, it is deplorable to see so many horses lost from certain exciting causes, of which the public ought to be made fully aware.

If glanders is, strictly speaking, non-contagious, and which is our opinion, it ought to be demonstratively proved; for it is notorious that the greater part of the proprietors of horses, and of the commanders of regiments, attributing the ravages of glanders to contagion, either principally or alone, neglect to withdraw their horses from that kind of influence, and do not inquire into those errors in the food and management of these animals, which are the true causes of its production. A mischievous error this, which costs the country many a good horse every year.

FARCY.—Like glanders, with which it has so much analogy both in its nature and its causes, farcy is often incurable, when it appears at the same time on many parts of the frame; consequently, if it can be so rarely combatted with success, it is to

the prevention of it that veterinary surgeons ought to direct all their efforts. Having been occupied in a series of experiments on the effects produced on animals by the re-absorption of pus, M. Renault has proved that farcy, and particularly acute farcy, often knows not any other cause than this re-absorption.

ALTERATION IN THE BLOOD.—Some recent cases have enabled M.M. Renault and Delafond to continue their inquiries into the diseases produced by, or complicated with alteration of the blood. The extreme and almost sudden debility with which the horse is seized—the infiltration of the conjunctival membranes, which are of a yellowish red, or a livid colour—the softness and little development of the pulse, when compared with the great force with which the heart often beats—the looseness of the hair in an early stage of the disease—the appetite, which the horse retains until the last moment—and, finally, the peculiar phenomena which the blood presents when it is first drawn from the vein,—these are, in their opinion, the principal symptoms of this affection.

The enlarged size, and the softness of the spleen—the semifluid state, and the black or deep violet colour of the substance contained in the meshes of its cellated tissue—the numerous ecchymoses which are found in different organs—the discoloration and the softness of the red muscles—the sero-sanguineous effusions which are often found in the serous cavities, and particularly in the pericardium, without any apparent lesion of the membranes which contain them, and the quickness with which the carcasses putrefy, are the lesions which these professors deem the most characteristic of this malady.

Slight bleedings at the commencement, to which a tonic and afterwards an analeptic treatment have quickly followed, have perfectly succeeded with the greater part of the animals that have been placed under our care.

WOUNDS OF THE SOLE.—Among the injuries to which the plantar surface of the foot of the horse is exposed, the most serious, without exception, are wounds from stubs or nails, penetrating through the aponeurosis of the perforans tendon into the navicular joint, and making an orifice of greater or less size, through which the synovia escapes.

Many saddle and cabriolet horses, and also some of heavier draught, were brought to the infirmary in the course of last year with wounds of this kind. They were all operated upon, but the treatment was not successful in all.

Those on which the operation was performed on the day in which the accident occurred, or the following day, have been cured, and quickly returned to their work, however serious the

wound may have been ; while with those that were not operated on until three or four or five days after the accident, the treatment has always been long, and the cure seldom perfect. Fibrous exfoliations, caries of the navicular and pedal bones, softening of the tendon, the establishment of fistulæ and of abscesses in the pasterns, have been the complications that have delayed or prevented the cure.

NEUROTOMY.—In the report of the last year, we spoke of the happy results obtained by neurotomy in our school. This success has been continued through the session which has just closed. Twelve horses, whose fore feet had been so contracted, and the heels so narrowed, that they were of no service to their owners, have been operated upon, and rendered free from lameness. Three, among others, of a valuable breed, having been operated upon successively on the two fore feet, have been made quite right.

It has been said, that after the complete section of the two nerves above the fetlock, the flexor tendons of the foot, below the point of operation, is liable to be ruptured during the exertion of much speed, or when the horse is put to unusually heavy draught. This accident has happened, during the present year, to two cabriolet horses that had been operated upon eight months before. One of these animals was brought to the school, and destroyed there. The foot was dissected with much care, and the softening of the tendon was observed, reaching some distance above and below the laceration. There was, besides, a transverse fracture of the navicular bone. The owner of this horse, however, had two others, which have been operated upon more than two years, and who work well every day, and are not in the least degree lame.

The horse that was the subject of the second accident, was at the school a few days ago. He presented the same appearances as the former one. It is probable that the rupture was produced in both by similar lesions.

These are the only accidents that have occurred during the four years that neurotomy has been practised at our school ; and we have operated on twenty-one patients. They are so few in number, that they prove nothing against the operation ; and both the proprietors acknowledged that they were attributable to their abuse of their horses. Were they, however, more numerous, we should persist in asserting, that neurotomy is a most important and valuable operation ; because it restores to usefulness many horses that were rendered almost incapable of service, and for which we at present know not of any remedy.

ROARING.—Some observations made and published by M.

Delafond, tend to prove that *La Gesse chiche**, given to horses both in its dry and green state, may produce roaring. That professor and M. Renault have had occasion, in the course of the present year, to make the same remark in the establishment of a farmer, in the neighbourhood of Paris, who keeps his horses on winter tares, chopped and mixed with a small quantity of chaff and treacle. The roaring of these horses was very remarkable. The slightest exercise, continued for only one or two minutes, would excite it; and it speedily increased to such a degree, that for a little while they were threatened with suffocation. One of them fell during the paroxysm and continued half an hour with frightful laborious breathing; but generally the roaring ceased after a few minutes' rest. In the interval between these attacks, the horses were perfectly tranquil; the respiration was natural, and they ate with appetite the ordinary allowance of healthy horses.

Two of these horses were brought to the school, one to undergo medical treatment, and the other to be destroyed. This last was killed at the moment when the roaring was most violent; and neither in the nerves nor the respiratory passages was there any lesion which could account for this singular phenomenon.

The other underwent medical treatment for two months, and was at length destroyed during an access of roaring. The result of examination after death was, in this case, as little satisfactory as in the former one.

Is this affection an inflammation (*névrose*) of the respiratory nerves of the larynx? We are inclined to think so; but we have no authority to affirm that it is so.

CHAIR OF ANATOMY.

BILIARY CALCULI.—M. Rigot, Assistant Professor, has added to the museum ninety calculi, collected from the hepatic and choledical canals of a horse. The dilatation of the different tubes, and the thickening of their parietes, were the only alterations which these productions had occasioned in the liver; and there was no symptom during life which could have induced a suspicion of the existence of these calculi.

* The *Latyrus Cicera* (the flat-podded latyrus) cultivated, according to Grogner (*Cours d'Hygiene*, p. 174), in the South of France, for the food of sheep while they are housed in the winter.

Orfila (vol. ii, p. 166), following Duvernoi, attributes some poisonous properties to this leguminous plant. He says, that when mixed with wheaten flour in the composition of bread, it has produced partial paralysis of the lower extremities; and that horses and fowls experience similar phenomena from the seed.

SALIVARY CALCULUS.—One of the form and size of an almond was found in the excretory duct of one of the maxillary glands of the same horse. The complete obstruction of the canal was accompanied by a transformation of the gland into a lardaceous mass, in the middle of which were several large cavities filled with a mucous fluid, communicating with the excretory duct, and seeming to be considerably dilated ramifications of it. M. Rigot has often seen the same organic change in similar cases, and also after tying the parotid duct; and it has been always preceded by inflammation of the glandular substance.

OSSIFICATION OF THE ABDOMINAL AORTA.—A horse presented a complete ossification of this vessel, from the origin of the sub-diaphragmatic arteries to that of the renal ones. A fibrous clot was found in this part of the artery, half obliterating its calibre. The cellular tissue of the hind limbs was infiltrated with serosity. M. Rigot has already observed these serous infiltrations at the time of obstruction either of the arterial or venous circulation, and effusions of the same kind in the peritoneal cavity, accompanied by induration of the liver.

A CYST IN THE SPLEEN.—A spheroidal cyst, seven pounds in weight, and filled with fibrine, not discoloured, was found in the substance of the spleen of a horse. No alteration was observed in the tissue of the organ, not even where it was in immediate contact with the parietes of the cyst.

M. Renault, several years ago, deposited a similar production in the museum.

FOREIGN BODIES IN THE GUTTURAL POUCH.—A biscayen, about an inch in diameter, was found in the left guttural pouch of a horse. A cicatrix on the skin, and in the thickness of the parotid behind the facial artery, indicated the path which this projectile took in order to penetrate into the guttural pouch. Its continuance there had caused the formation of a great quantity of pus.

INSUFFLATION OF THE LUNGS.—Insufflation of the lungs of a horse, made as far as possible within the limits of ordinary respiration, having discovered to M. Rigot, that different portions of these organs were unequally permeable to air, and that where that permeability is most easy and prompt, interlobular and sub-pleural emphysema is oftenest found, that professor asks, whether this coincidence does not warrant him in supposing that these portions are most constantly in action during the life of the animal.

CHAIRE D' HYGIENE.

THE FLOCK OF ENGLISH SHEEP.—The English sheep, and the flocks crossed by them, have given us little matter for observation in the clinical course. Many cases of intense ophthalmia, and which have been, in a manner, epizootic in England, have been less difficult to treat in our climate, and have been promptly cured by means of astringent washes. Many accidents, and especially the lamenesses occasioned by the voyage and journey, have yielded to proper treatment. The only animals that have been lost, died of gangrenous swelling of the udder, and redwater, unfortunately so common in our district, as well as in many other localities. The health of the flock has been generally good, notwithstanding the change of food and management to which they have been submitted. The lambing has been fortunate; many of the ewes had twins, and most of the lambs have been reared. During the ten months that it has been in France, the flock has doubled its number. This increase has enabled us, in the present year, to sell and to let some rams; and, most of them being in the neighbourhood of the school, we shall be enabled to observe the effect of this foreign cross. In the next year we hope to be able to sell a greater number of older sheep, to form a cross with our native ewes, and to verify, by multiplied experiments, the trials which we have already made at Alfort on a small scale, and tending to this point, whether our climate affords any obstacle to our obtaining in France the long, strong, and shining wool, which the English are permitted to send to us.

In the course of the last year, Mr. Yvart has been consulted on many points relative to the rearing and management of domestic animals, and especially on the value of buck-wheat as a food for sheep, and to remedy the want of forage which, according to him, has followed the unfortunate attempt to introduce the Norman stallions of Cottentin and the plain of Caen into the departments of Pas-de-Calais and the Boulonnois. Mr. Yvart has delivered to the Royal and Central Society of Agriculture, a report on the levers (*leviers*) which Granger has proposed to apply to the fore-wheels of carriages; and he has described the circumstances under which the discovery may be rendered most useful.

Having been appointed one of the committee to examine into the advantage of substituting bread for oats, as the food of troop horses, he has made this the subject of a memoir which he has published.

Récueil, Sept. 1834.

CALCULUS IN THE COLON.

By Mr. W. C. SPOONER, V. S., Winchester.

ON the evening of the 30th of July, an old horse, belonging to Mr. Budd, miller, in this city, was brought to my stables. He had been attacked several times during the day with symptoms of colic, and was inclined to lie down on his way up the street. Pulse 48. I administered an antispasmodic draught, soon after which he appeared to shiver very much; a little exercise, however, removed this, and in the course of an hour he appeared much better, and quite free from pain, but would not eat his mash.

August 1st.—Has had another attack this morning, and we could not discover that any dung had passed during the night. He was raked, but only a small quantity of hardened fæces could be obtained. An injection was thrown up, twelve pounds of blood abstracted, and ol. ricini ℥x, aloes ʒv, administered. I thought perhaps the mischief might arise from a collection of fæcal matter, and with this view I gave (by the advice of the French) antim. tart. ʒi, in oil, twice during the day. He had several attacks in the course of the day, and in the evening the pulse had increased to 52. V. S. from the abdominal veins, ℥vi.

August 3d.—Appears worse. Pulse 70. Nothing has passed. Attacks much more frequent, and during their continuance he will sit upon his haunches for several minutes at a time. The tartarized antimony was continued in larger doses, but all the symptoms became more aggravated. I expressed my opinion that a calculus was the cause of obstruction, and that the case was hopeless; and in the evening, with the consent of the owner, the poor beast was destroyed.

Post-mortem Examination.—The next morning, as soon as the abdomen was opened, I put my hand at once on a large calculus that was wedged completely in the second curvature of the colon, near the diaphragm. It was completely circular, weighed five pounds two ounces, and forms a very fine and perfect specimen. Much inflammation was, of course, discoverable, but the fæces were softened. The horse had been occasionally subject to attacks of the fret for a long time past, but always got better without any medicine. The calculus was, doubtless, formed in the colon, and acquired its rotundity from rolling about in this large intestine.

RUPTURE OF THE STOMACH.

By the same.

ON the evening of the 15th of September last, I was requested to see a cart-horse, belonging to the same owner as the foregoing case. He had eaten with his usual hearty appetite early in the morning, and was then put to the waggon with the other horses, to go to Southampton. By the time he had got six miles he seemed to be in much pain, and wanted to lie down. He was taken on by the carter three or four miles further, and on his getting worse was left in a stable. A farrier was sent from Southampton, who gave the horse a drench, and bled him. In the afternoon he was sent home behind the waggon, and shortly after his return I saw him.

On my going into the stable, I observed a dark-coloured, sour, offensive fluid issuing from his nostrils, and which had been running about ten minutes before I saw him. He was covered with a cold clammy sweat, and not the slightest pulsation was perceptible. Every now and then he would stretch out his fore legs, lean backwards and downwards until his abdomen nearly touched the ground, and then rise up again with a groan, after which the fluid from his nostrils issued in increased quantity. I told the attendants they had better remove him from the stable as soon as possible, for fear of his injuring the other horses in his struggles, as he would not live half an hour. He was removed with difficulty, and in about twenty minutes (during which he continued vomiting by his nostrils) he died in the greatest agonies.

Sectio Cadaveris.—On opening the abdomen the next morning, the contents of the stomach, consisting mostly of bran, were found mingled with the intestines. A large rupture extended nearly throughout its larger convexity. The stomach was still about half full of food, and, judging from the quantity, both liquid and solid, found in the abdominal cavity, and the quantity vomited (at least six quarts), this viscus must have been most enormously distended. It appeared much inflamed, and patches of ecchymosis were discoverable in the intestines; but the other viscera were found in a healthy state. The horse was a ravenous feeder, and his diet mostly consisted of dry bran, which, on mixing with the liquid in the stomach, no doubt increased in bulk, and caused the rupture.

Do you think, Messrs. Editors, that the rupture took place soon after the horse was put to work in the morning, or that the overloading of the stomach caused pain and spasm, and the stomach became lacerated during the struggles? And why should the vomiting take place so shortly prior to death?

INTERMITTENT FEVER.

By M. LAUTOUR, V. S.

CASE I.

A COLT, two years old, and which, in the course of three weeks, had covered a dozen or fifteen mares, exhibited, on the 18th of May, 1829, at eight in the morning, the following symptoms of disease:—General shiverings; the head hanging down; pulse frequent, and small; the loins inflexible: the animal is frequently stretching himself out and yawning. This continued until about half past ten; the mucous membranes began then to redden—the pulse acquired force and fulness—the dulness augmented to something like stupor—the temperature of the body was increased—partial sweats broke out; the limbs were brought close together under the body—the colt shifted his feet as if he was about to lie down, and his tail was continually in action—the bowels rumbled. At noon these symptoms began to diminish, and at two o'clock they had completely disappeared: the suppleness of the vertebral column was restored; the horse began to eat, and all febrile reaction had ceased. Hay and white water for the night.

19th.—A new attack of fever in the morning: bleed to six pounds. Emollient injections; friction.

20th.—An attack similar to the first. 21st.—Ditto. 22d.—Ditto, with marked symptoms of colic.

23d.—Ditto. Emollient fumigations confined about the horse by clothing reaching to the ground. The bleeding repeated at six o'clock in the evening.

24th.—Fever, but not so violent. Two vapour baths.

25th.—No fever.

26th.—Fever, but of shorter duration; and the symptoms milder.

27th, 28th, 29th, 30th.—The fever gradually returned at its usual time, but with diminished force, and at length disappeared.

CASE II.

Nov. 11th, 1829, 9 A. M.—A mare had general shiverings—gathered her limbs under her—carried her head low—moved slowly, and evidently with pain. She yawned every instant—the tail in continual action—bending her legs as if she was about to lie down—expulsion of flatus from the anus, and the voiding of very hard pellets of dung. An hour afterwards she broke out into a sweat; was immediately relieved, and every febrile symp-

tom quickly disappeared. During the remainder of the day she appeared to be perfectly well.

12th.—A similar febrile attack. A small quantity of blood was taken away.

13th.—In order to break the charm, she was taken out a quarter of a league, but the same symptoms were manifested with greater severity; there was much rumbling of the bowels—she looked anxiously at her flanks—she placed her limbs in a posture for lying down, and at length she laid herself down in the middle of the road. After five minutes had passed, her owner made her get up, which she accomplished with difficulty. She was gathered, as it were, altogether, and walked as if the spine was perfectly inflexible. Having returned to the stable, she soon became tranquil, and apparently well.

14th.—Nothing unusual occurred.

15th.—She was turned in the field before the usual attack, but the symptoms came on violently, and it was deemed necessary to bring her into the stable again.

16th.—I now saw her. There did not seem to be any thing the matter with her, nor was there during the day. The owner told me, that, about fifteen days before, he had began to feed her liberally with peas and barley, and that the increase of condition which followed was rapid and surprising. After this I could not doubt that this febrile action was the result of some irritation of the digestive organs, and which was otherwise sufficiently manifested by the colicky pains which she evidently suffered during the exacerbation of the symptoms. Six pounds of blood were abstracted; a mash diet was ordered, and soothing powders mixed with honey: emollient injections were administered.

17th.—A new access of fever.

18th.—Perfect health during the day.

19th.—A slight febrile reaction; after which the disease ceased to appear.

Many cases of intermittent fever have been published by veterinarians; nevertheless, it is of rarer occurrence in the horse than in the human being. If, however, we carefully review our own practice and that of others, we shall probably find more cases of it than we suspect. A horse is a little off his feed—shivers—is uneasy—hangs his head: a little while afterwards he is better—he is well; and then, on the following day, or at some uncertain time, the symptoms return. If these states of febrile reaction are of short duration, the owner pays no attention to them; and, as the horse is not withdrawn from the influence of the causes which produced this irregularity of action, but on the contrary the fever is increased by food more choice or more abundant than

usual, and given with an intention to rally the powers of the animal, it results that intermittent fever, for such it was at first, becomes continual, and then only the veterinarian is called in, unless the patient is valuable, or the master or the groom is more than usually attentive.

Whether, however, this febrile reaction has assumed a continuous or intermittent type, I am far from considering it as essential; for we are now beginning to regard many of these diseases not as primary affections of the organs which seem to suffer, but as the result of sympathy with some point of irritation.

In the cases which I have related, the febrile action could be plainly traced to this sympathetic influence. In the first instance, the patient had been exhausted by copulation too frequent for his strength; and in the other, by food of too stimulating a nature.

Journal, Janvier 1833.

CYNANCHE LARYNGITIS ERYSIPELATA (Q^d CELLULARIS.—*Edit.*)

By Mr. MEYER, Jun., V.S., Newcastle-under-Line.

THIS is a disease which has hitherto escaped the notice of veterinary authors, but which, from its rapid and fatal termination, cannot be brought too early before the attention of veterinary practitioners. The horse, as well as the cow, is subject not only to cynanche pharyngitis and cynanche laryngitis, but likewise bronchitis, after the ordinary characters of active inflammation in general. They also are both subject to this very peculiar but rare affection, which I have designated by the name of Cynanche Laryngitis Erysipelata. I have witnessed it both in the horse and the cow. The animal shall be well over night, and the next morning you shall find its throat swelled up, from ear to ear; the swelling not only filling up the cavity betwixt the rami of the lower jaw, but likewise extending itself with amazing rapidity up towards the back of the head and neck, and likewise down the sternal muscles in front, terminating by that abrupt œdematous edge so characteristic of erysipelatous inflammation. The breathing is accomplished with great difficulty, and with a loud whistling noise; the nostrils distended; the countenance anxious; great restlessness, arising from a sense of suffocation; pulse from 70 to 80; loss of appetite; bowels constipated, or the fæces being covered with slime and effused lymph. If instant relief is not afforded, it runs its fatal career in the course of from twelve to twenty-four or forty-eight hours.

Upon examination of the cases after death, I found the membrane lining the pharynx and larynx of a dark venous hue, accompanied with great infiltration of serum into the cellular tissues; the membrane lining the epiglottis was much thickened and raised, terminating by an abrupt edge towards its root; the lungs and membrane lining the trachea and bronchial tubes were generally inflamed, but not to a violent degree.

Upon examining the mucous membranes of the stomach and intestines, they presented one uniform inflamed surface, particularly that portion lining the cæcum, colon, and rectum. I therefore consider this disease as dependent upon general inflammation of the mucous surfaces of the system, particularly those of the stomach and bowels. It is a disease which, if not identical with, bears strong analogous features to an endemic one which occasionally attacks cattle, and, from sweeping off such numbers in particular districts, has been erroneously styled the murrain by the common people. I understand that the swelling of the throat, and consequent suffocation, form some of its leading features.

The indications of cure are—1st, To prevent suffocation by performing *immediately* the operation of tracheotomy—it never should be delayed a moment; 2dly, To reduce inflammatory action and consequent fever by bleeding cautiously, and bringing, as soon as possible, the bowels into action, by the exhibition of ol. ricini, sulphate of magnesia, and aloes, in linseed tea or warm water, following it up by an antiphlogistic treatment. Locally, deep longitudinal incisions should be made into the cellular tissues, by which means tension is taken off, and the vessels have an opportunity of unloading themselves. Apply cooling astringent lotions, but not hot fomentations, which, I think, are prejudicial in erysipelatous inflammation, of an active inflammatory cast or character. The animal should be supported with oatmeal and water, and bran mash, made quite thin with water. As the disease declines and the appetite returns, grass must be given, in preference to hay.

If the above means are promptly and vigorously adopted, I trust the disease may be brought to a happy termination.

ON THE USE OF THE CHLORIDE OF LIME.

By M. HUVELLIER, V.S.

A HORSE of quick draught had on his neck several cores imperfectly healed; suddenly several fistulous ulcers broke out, giving issue to a most foetid matter. I probed them, and found

vast sinuses, more than eight inches deep, extending on both sides. I introduced the point of an iron, brought to a red heat, into each opening, to prevent them from closing, and I dressed them during fifteen days with the tincture of aloes. Not seeing amelioration, I had recourse, twice every day, to the chloride (*chlorure*) of lime, dissolved in half its weight of water; and in the space of three weeks the swelling of the neck was gone, the wounds were all healed, the animal could readily turn his head on either side, and, a few days afterwards, he was sent again to work.

I have employed the chloride of lime, mixed with six parts of water, with much advantage, in cases of chronic ophthalmia. In the course of eight days the conjunctiva has regained its natural colour, and the cloudiness of the cornea disappeared.

The chloride of lime, pure (Mr. H. must mean a saturated solution of it), has healed, in ten days, a vast farcy ulcer which had attacked the lips and the nostrils, and extended to the cheeks. The animal was unable to eat, and emollient applications had been of no service. The lotion was employed twice in the day, and the ulcer healed with astonishing rapidity. An enlargement of the glands beneath the jaw also disappeared.

Récueil, Janvier 1834.

THE VETERINARIAN, JANUARY 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE commence to-day the eighth year of our literary existence—our labour in a cause that deserves, and well repays, our best exertions—our association with fellow-workmen, who merit and who have our cordial esteem, and our truest, deepest gratitude.

“ Though varying wishes, hopes and fears,
Fevered the progress of these years,”

from the hour that we first struggled for birth—and the abortive attempt was made to strangle us in our very cradle—and the prediction was confidently uttered (the expression of hope more than belief), and again and again repeated, that we could not survive—that we should perish for lack of nutriment—yet, with renewed vigour—with the increased certainty of gradually accomplishing our object—and with the proud assurance that the existence of our periodical is identified with the progress of veterinary science, and that the good wishes of every good veterinarian attend it, we once more present ourselves before our

readers. While we say this with exultation, we can likewise say it without egotism, for the cause to which our Journal is devoted is that of our brethren ; its value depends on—has been created by—their labours ; and the good it has effected is their work far more than ours.

We will not again compare the state of veterinary science eight years ago with what it now is, nor put against each other the altered opinions, and usages, and practice of that time and the present : a slight review of the past year will be sufficient to illustrate the progress of our art.

The use of the ergot of rye has been established in cases of difficult parturition in all our quadruped patients. For many a year past the writer of this article had been accustomed to have recourse to it in protracted labour in the bitch, and generally with success. If the powers of nature were not quite exhausted the uterus began once more to contract upon its contents. A communication from his talented pupil, Mr. Simpson, illustrative of this property of the spurred rye, induced Mr. Allinson to bear his testimony to its value in the difficult parturition of larger animals ; and although Mr. Harrison's report of it was not favourable, probably from one of those occasional mysterious and uncontrollable states of the œsophagean canal of the ruminant, yet the different result in other and not a few cases, of which the present writer has accidentally heard, or which have been privately communicated to him, warrant the conclusion that, judiciously administered, and with those guards and precautions that the case may require, the lives of many valuable animals may be saved.

From a French writer, M. Bouley, many valuable observations, and new to the English practitioner, have been translated on the causes and treatment of paralysis in the horse, and on the diseases of the spinal cord, and its membranes generally.

Some interesting observations have been made on the connexion of strangles with constitutional debility, by M. Corbet, and with a disposition to the formation of tumours elsewhere, by Mr. Brown.

Mr. Bull has described a case of Asiatic cholera, or a disease identical with it, in a mare ; and another writer has communicated a similar case in a zebra.

A complete revolution has been formed in the opinion of veterinarians respecting cataract, by the communications of Messrs. Cartwright, Clay, Hale, Harris, Percivall, Spooner, and others. It may be produced without apparent previous inflammation—it may come almost of a sudden—it may not necessarily impair vision—it may, and does frequently, disappear; and we are beginning to have a conception—perhaps, as yet not a very certain one—of the circumstances which may guide our prognosis as to its serious character, and its probable duration.

Some experiments, almost invaluable, by M. Leblanc, respecting the effects of wounds penetrating into the chest, have been laid before the British public.

That which will hereafter be considered as one of the noblest improvements in our practice, the use of the chloride of lime in many cases of grease, and in all fistulous wounds, has found powerful advocates in Mr. Simpson and Mr. Holford.

“Chrochles in cattle.”—We are indebted to Mr. Tate for the first intelligible account of this singular disease. Mr. Cooper and Mr. Corbet on the chords in cattle must not be forgotten; nor the explication of *grass-ill* by the latter.

The division of the flexor tendons has been considered by various contributors; Mr. Young’s cases of successful division of them are gratifying; the explication by Mr. Dick is luminous and conclusive: and there is no doubt that if the operation is undertaken with proper selection and precaution, and the horse is not set to work too soon, or cruelly abused, it will be generally successful. The accounts of the rupture of the perforatus and perforans, by M. Patte, do him much credit: and Mr. W. C. Spooner’s case of division of the flexor tendons of both legs is a most valuable addition to our surgical practice, and reflects on him much credit.

Mr. Friend, and Mr. Harrison, have illustrated the mechanism and functions of the stomachs of ruminants. It is an important subject, and the want of definite knowledge with regard to it is often the source of sad annoyance to the practitioner on cattle.

Mr. Friend’s frog-pressure shoe has peculiar value in all cases of sunk soles, and when it is desirable to relieve the laminæ as much as possible. The shoe is both simple and ingenious, and

is the best application of frog-pressure which the veterinary surgeon possesses.

The question started by Mr. W. Henderson, as to the connexion of occasional attacks of spasmodic colic with soundness, is a new and interesting one.

The paper of Mr. Karkeek, on the External Causes of Disease, abounds with interest; and his communication on the effect of the hydriodate of potash in removing glandular enlargements, will rank among the recent and not the least valuable innovations in veterinary practice. We would suggest, and we speak here from repeated experience, the use of this drug in cases of phthisis, whether in the horse, the cow, or the dog. We have seen beneficial effects from it, which exceeded our most sanguine expectations. This, however, will, at some future time, form the subject of a lengthened communication; in the mean time, we entreat our readers to make trial of it in every case in which they suspect tuberculated lungs. A communication of the effect produced will be gratefully received.

The cases of the unusual retention of the foetus in a cow, and of singular rupture of the uterus in the same animal, by Messrs. King, are original and instructive.

The introductory lecture of Mr. Percivall will be read with much interest; and in his communication on scarlatina, he has made an addition to our increasing list of diseases.

M. Prevost gives a graphic delineation of that unacknowledged but frequent disease, the cramp in horses.

Mr. Pritchard, in his concluding paper on the diseases of the heart, is original and correct. There are several analogous subjects worthy of his pen.

Some light has been thrown on the subject of rabies. Mr. Baker's account of the symptoms in sheep was a desideratum. The fact of the communication of rabies by the saliva of a cow, is all-important. Dr. Gaetani's theory of the non-contagiousness of communicated rabies, and the usual exciting cause of this disease, are stated at considerable length.

The rot in sheep has also received much original illustration by the account given of it on the banks of the Nile, by M. Hamont. Although differing essentially from him as to his theory of the disease, we have derived much valuable informa-

tion from his memoir; and we rejoice to see medical men and veterinarians uniting in the combined pursuit of such subjects.

Mr. Simpson has added to our stock of veterinary knowledge, by his observations on the metastasis of inflammation, and on obscure hock-lameness; and particularly, by his comparison between the high and low operation in neurotomy, and his very proper advocacy of the former in general cases. This is an interesting point of practice.

Mr. Skeavington has placed that singular oriental disease, “the worm in the eye of the horse,” in a perfectly new point of view.

Mr. Storry deserves the thanks of the profession for his communication of four additional cases of the cure of glanders, by “fumigation with carbonic acid gas.” This is a portion of our vineyard in which every labourer is indeed honourably employed.

To Mr. C. Taylor much merit is due for his history of a successful performance of lithotomy, and for his ingenious description of the instruments he employed.

The account given by Mr. Thomson of the casualties attending castration, will be read with pleasure and improvement; and his case of a hymen in a filly is valuable.

Mr. Young’s history of the fatal effect occasioned by the lodgment of a small needle under the tongue of a horse, is unique.

If the writer of this article might, for a moment, allude to papers contributed by him, he would refer to some “Illustrations of Disease” derived from animals that do not usually come under the veterinarian’s care. He would hint at the introduction of torsion into veterinary practice, as a means of arresting hemorrhage, and as promising eventually to supersede the clumsy, and often ineffectual, and almost always cruel, methods which were formerly resorted to for this purpose; and he would also glance at a sketch of the nervous system, suggested by the invaluable discoveries of Sir Charles Bell, but extended farther than that eminent physiologist has hitherto gone; embracing not merely the functions of respiration, but all the phenomena of organic life; and based on plain and undeniable anatomical facts. The connexion of this view of the nervous system with

the theory and treatment of some of the most serious diseases to which our quadruped patients are exposed, is sufficiently evident.

As contributing to the more perfect knowledge of anatomy, natural and morbid, and as illustrating some important points of physiology, mention should be made of Mr. Anderson's account of carcinomatous enlargements of the spleen—Mr. C. Clark on the uses of the infundibulum and canalis vasiferus in the foot of the horse—and Mr. Dick, on the functions of the omentum.

Mr. Apperley's Contribution on Cataract, and Mr. Berry's History of the Cæsarean Operation, rank among the proudest testimonies of the progress of our art. When men like these will ally themselves with us, veterinary science is beginning to be estimated as it ought.

This is a review of the proceedings of one year—not in the slightest degree exaggerated—and which cannot fail of delighting those who have the improvement and the reputation of their profession at heart. Thanks, kind friends! A few more such volumes as the last, and the eventual accomplishment of our noble object will not only be assured, but it will have been substantially effected.

But has the march of improvement been confined to the exertions of individual labourers? No! No!! Let us turn to our schools. The Professor of the Veterinary College at St. Pancras has advertised—publicly pledged himself—that his lectures shall comprise the general functions of all domesticated animals. The Assistant Professor has placarded the theatre to the same purpose; and has also “publicly pledged himself” that his lectures shall embrace the diseases of all domesticated animals. These instructions must consist of no application of theory, good or bad, to cases which the lecturer has never seen—no random gleanings, here and there, from sources the authenticity of which has not been satisfactorily examined—and thrown hastily together to answer the purpose of the moment:—they must be the result of personal observation, and of deep and anxious thought; for, as another professor, in another theatre—that of politics—has lately and truly said, and by which he, also, must stand or fall, “I have the firmest conviction that confidence cannot be secured by any other course than that of frank and

explicit declarations of principle—that *vague and unmeaning professions* may quiet distrust for a time, may influence this or that mind, but that *such professions must ultimately and signally fail, if, being made, they are not adhered to.*”

The establishment of an efficient school of veterinary anatomy, in the immediate neighbourhood of the College, is another pledge of improvement; for the student will now be enabled to lay deep and sure the foundation of that superstructure which alone can shelter him, and add to his respectability, instead of an ill-formed, insecure, and treacherous fabric, which the first shock of doubtful or difficult practice will overwhelm, and in the ruins of which he will be buried.

The extension of veterinary education to chemistry, and particularly to agricultural chemistry, is another assurance that the good cause will progress and triumph. But, really, these instructions should not be delivered, and the experiments made, in a little close room, where the lecturer has not a fair chance to do himself or his subject justice, and where he and his class suffer severely at the time and afterwards from the heat and vitiated air. The College theatre, most properly granted to the London Veterinary Medical Society, will not surely be longer withheld, when that science is taught which the chairman of the examining committee truly asserts “more than any other concerns the veterinary student.”

There is another indication of continued progress, which we have much pleasure in stating. Young men are too apt to squander away, in frivolous or low pursuits, the time, too short, yet all-important, that should be sedulously devoted to preparatory study. At a late examination, a considerable proportion of those who presented themselves had been thus incautious and censurable. In the tavern and the skittle-ground many an hour had been wasted which should have been given to better purposes. They were rejected—and the ground of rejection was frankly stated. This was as it should be. It was an act of kindness to those who had suffered themselves to be thus misled. It was an act of justice to the profession generally: and, although we have never been flatterers of the examining committee, as at present constituted, but, on the contrary, have, in no very measured terms, expressed our opinion of their composition and

their conduct, we here thank them, in the name of every one who has the interests of veterinary science at heart. Our thanks are more cordial, because we know that, when the judge begins to act with salutary severity, he must take especial care that there is nothing wrong in his own tribunal—no violation of the rights of others—no neglect of duty—no insensibility to the welfare of those for whose benefit alone he presides—or even-handed justice will soon commend the ingredients of the bitter chalice to his own lips.

We have much pleasure in adding, that the appearance and conduct of the students generally, who are more numerous than in any former year, afford a pledge of better, far better things.

We look northward, and there, from the increased numbers and respectability of the pupils, and the talent and exertion of the professor, and the character of the instruction, co-extensive with the future wants of the students, we have reason to augur well as to future times.

Although no veterinary lectures have, for a twelvemonth past, been delivered at the University of London, the connexion between that noble institution and our art, so honourable and advantageous to us, is not broken. In the ensuing spring, the lecturer will have opportunity to shew that ill-health alone, and no lack of zeal, caused this long suspension of instruction there.

Most important of all, is the feeling which is rapidly pervading every district, that the agriculturist may and ought to derive far greater benefit from our profession than he has hitherto been enabled to do—that our sheep, our cattle, unequalled in the world, should no longer be deemed unworthy of veterinary care, and strangely, infamously abandoned to those whose ignorance is equalled only by their brutality. This sentiment has been of late frequently expressed in the leading agricultural publications—it was echoed, in a way not to be misunderstood, at the last Smithfield meeting—it is adopted, as the writer of this has had occasion to see, by the most influential breeders in every part of the United Kingdom; and the consequence is neither uncertain nor distant.

Are there no dark shades in the picture?—no causes of temporary retardation in our onward course? The consideration of this must be deferred to a future number.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

A Treatise on the Care, Treatment, and Training of the English Race-Horse, in a series of Rough Notes. By RICHARD DARVILL, V.S. late 7th Hussars. Vol. ii. Price £1 1s

OUR readers will remember we presented them (in the 2d and 3d vols. of our Journal) with a tolerably copious analysis of the first part of the present work: we have for some time past had the second lying upon our table; and this, we find, is to be followed by a third. We wonder what old Frampton—we think his name was *Frampton*—"the Father of the Turf," would say, could he rise out of his grave and behold three such octavo volumes as these devoted to the subject of training?

It is a subject that may be denied to come strictly within the province of a veterinary surgeon, and yet he is the very kind of person that must, or at least *ought* to feel, that his mind is stored with that sort of knowledge which, when it comes to be applied to the science of training, must, like a male and female screw, be found exactly one to fit the other. Notoriously and disreputably true as the fact is, that few horse-people know less about racing than veterinary surgeons in general; still it must be admitted, that the sciences are related, and can, consequently, be more advantageously cultivated both together in the same mind, than either of them can singly. Mr. Darvill commenced his career in life in learning "to rub legs, set the stables fair, and clean up the yard:" he has left off, after having practised twenty long years as a veterinary surgeon in the army. Is he any the worse for having performed the duties of a common groom? Quite the contrary. How much the better veterinary surgeon has he made for it; and how much the better still would he make trainer, were he now to commence that business again, after having been initiated in the principles of veterinary medicine, and followed the practice of it for twenty years! It is this dove-tailing of the sciences that so strongly reflects and extensively elicits their reciprocal advantages. It is, in fact, *comparative anatomy*; which those alone decry who choose to remain in ignorance of it: at least this is the only thing one can offer in the shape of a reason for such strange fastidiousness of taste.

Mr. Darvill distributes the contents of the present volume into twenty-six chapters, commencing with the formation of the race-horse, and ending with the completion of his training; pointing out every thing as he proceeds, with the regularity and precision of one who had already done it all himself, and in

such language as trainers and jockeys best understand the force and meaning of.

Speaking of the "formation of the English race-horse," Mr. Darvill says, he prefers one of the height of fifteen hands, or, at most, fifteen hands one inch ; and one that has "length, with good substance," to any other description. Tall horses answer very well to run over straight courses of short lengths, such as the one for the two thousand guineas' stakes at Newmarket, and the Riddlesworth ; they also come in well enough for Epsom and Ascot ; but for running under high weights—twelve stone in King's plates—at long racing lengths, from two to four miles, or for running on a small cock-pit or whip-top sort of course, "the low lengthy horse"—being, as he mostly is, a round goer, and comparatively bandy at his turns, is, in my estimation, by far the most likely.

We shall not trouble our reader with any common-place detail about conformation, but sum up this chapter by forcibly impressing upon him the necessity, beyond all other considerations, of attending to such points as denote a *sound constitution*, and *strong and fleet limbs* ; these being indispensables in the construction of a race-horse having any pretensions to superiority. However, as there is no such thing as perfection in a racer, any more than in any other living creature, due allowances must be made for faultiness. Our chief aim should be, to come as near to perfection as possible ; and this we shall be best enabled to put in practice, by making a sort of debtor and creditor account between the bad points and the good ones. If we find the latter counterbalance the former, and that the horse possesses action, and, above all, evinces this in his *walk*, and is withal sound, let nothing but an out-of-the-way price hinder us from purchasing him.

In the second chapter, Mr. Darvill makes some proper and manifest distinctions between the thorough-bred, half-bred, and cock-tail, and at the same time points out what use should be made of these differences in running one description of horse against the other.

The reason "why thorough-bred horses so far surpass half-bred ones is, not from the circumstance of their being *thorough-bred*, but because they are *bred to race*." Now, though this may appear, at first view, somewhat paradoxical, we believe, on close examination, it will turn out to be pithily, nay, happily expressed. What constitutes the difference between the Arabian—the fountain of all our blood and our present breed of blood-horses ? If not that the one is of pure genuine blood, or "thorough-bred," while the other is "bred to race ?" To what a degree has the altered system pursued in racing changed our breed of racers ? Have they not degenerated from the sterling King's plate horse

—such a horse as Eclipse was—down to the handful of speed, or else into the spiry weed that can run but a mile before his powers forsake him? But this is “breeding to race”—to run half miles and miles with no more than five or six stone of burthen; not *to hunt*, which would require a horse able to win a King’s plate, carrying twelve stone four miles. The thorough-bred horse, from breeding only, is superior to the cock-tail “because he has considerably more power in less compass;” and can therefore “almost always beat the half-bred in a long race, provided he be made proper use of *early* in the running.” The only chance the cock-tail or half-bred horse has to win is, *to wait* or *lie back* until he comes within the distance, where—as he is very likely to be quite as fast, or, perhaps, a little faster than the thorough-bred—he may commence running. On the other hand, the thorough-bred must be sure to come off *sufficiently early* in the race to draw the half-breed up to the top of his pace, and to keep him at that pace until he is thoroughly beaten; which ought to be done *before* they get too near home, in order that the race may be finished “to satisfy the crowd.”

In closing this chapter, let it be understood that there is a difference, and that a material one, at least in propinquity to true blood, between the half-bred and the cock-tail. The cock-tail claims the nearest possible kindred to the racer: “there is only some little stain in his pedigree when traced so far back as the great grand-dam or sire, or, perhaps, the great great grand-dam or sire; whereas, of the half-bred, either the sire or the dam is supposed to possess no blood or breeding at all. As Mr. D. aptly observes, therefore, it shews bad judgment to allow a cock tail to be entered into a hunting stakes unless with the understanding that he be heavily weighted. Without that, he will not only beat all his half-bred competitors, but occasionally obtain the victory even over some “very fair thorough-bred ones.”

We shall pass over Chap. III, containing “The necessary knowledge to be acquired by noblemen and gentlemen of the turf,” in order that we may leave ourselves space to notice a few “practical observations” of more interest to us, on the subject of “commencing the training of horses.” The principal requisites in a racer are “that he should have good blood, good speed, and good temper;” added to which, “he should not have the least tendency to unsoundness, either local or constitutional.” “In training different horses, we are principally to be guided by their structure, age, and temper”; as these respectively vary, “so will each horse require a different treatment.” “It is to be observed, that the exercising of race-horses is one thing, and the doing of work with them is another. The former is to keep them steady, and in health; and the latter, when properly administered, is to bring them clear in their wind, to lighten those that

require of their flesh, and to give tone and substance to the muscles of their bodies and tendons of their legs. Most of them will, more or less, draw fine in training, depending on the work they may be doing; and this, in the medium, is what we want, provided that they are hearty, and that they go cheerfully to their work; that their legs are cool, and in shape; and that they feed and drink well. We mean, by the above observations, that all horses in training should enjoy both their food and their work; if they be over-marked at either the one or the other, they will not come out to run in their best form." A horse may be trained to run either a short or a long length: in either case he must occasionally go (while training) "a little longer length in the concluding of his work than he will have to go in his race." "As to the appearance of a horse in condition, when brought to the post to run, he should appear (if I may be allowed the expression) bloomingly ripe, fresh, and healthy in himself, clean, and unloaded in his muscular surface from what is commonly called 'the waste and spare;' in other words, there should be neither in him nor on him any superfluous flesh or adipose membrane. He should be clear in his wind, kind and glossy in his skin, cool and clean on his legs, and, from behind the girths of his saddle, he should be straight and handsome in his carcass (if he is not too great a glutton); the muscles of his body should feel hard and springy to the touch, with a sort of projecting swell or substance in the body of them, and particularly those of his hind quarters, which should also appear as though they were distinctly divided from each other; his crest, not being too high, should feel firm and closely attached to his neck." This is good sound doctrine, such as comes directly home to the minds of men of experience, and than which no better can be instilled into minds of inexperience; but, sound and good as it is, as our author wisely observes, it will not serve us in all cases, without knowing what work the horse has actually performed, and being acquainted with many other circumstances which the trainer alone can be privy to. "In fact, there are no men who can, or at least ought to be so capable of judging of the fitness or state, in all respects, in which horses should be to race, as those who have had the working, the feeding, the watering of them. A training groom should never suffer himself to be led astray about the condition of his horses by the opinions of others." "If the training groom finds that his horses are not likely to suffer, either locally or constitutionally, from the work he may be giving them, and that they keep *training on*; that is, if he finds that his horses can go faster and stay longer at the pace by being drawn fine, the trainer will be right in stripping them of their superfluous flesh: still bearing in mind the circumstances which have already been noticed, viz. that his horses *feed well*, and go *cheerfully to their*

work; that they are *cool and clean on their legs*, and *sound on their feet*." "The grand criterion in training horses, and the best of all others (at least I found it so), for a training groom constantly to bear in mind, is, that Nature will ever claim her rights, in regulating the whole economy of the animal system."

Spare, light-carcassed horses, providing their constitutions be sound and they be good grubbers, there is but little trouble in training; the difficulties lie, in bringing to the post in a fit state, hardy, gluttonous, strong horses: "it is difficult to keep them from putting up flesh, so as to prevent them from coming too fat to post; and training grooms have sometimes been led astray from the circumstance that, if horses are fat in their insides, they cannot run for any length; nor can any animal that is fat run its best pace but for a very short distance. Yet this rule does not, in the same degree, hold good as to the fat there may be on the *surface* of horses' bodies. If hardy horses do not draw fine from the work they have been doing, they may, nevertheless, have got rid of a sufficient portion of the superfluous fat in their *insides*; and if I found them right in their wind for the length they may have to come in their races, I should not mind their coming out high. Such horses had better come out thus to run, than that they should be drawn fine for appearance sake, at the risk of very much injuring their constitutions; and thereby disabling them from running in their best form for the length in which they may be engaged."

What follows this is too true to have escaped any practical horseman's observation; it is a point we have always firmly contested:—"Another thing to be observed in the training of race-horses is, that they should be got ready precisely to the day on which their engagements are to take place, *as they will not remain in the artificial state of condition to which they may have been brought but for a very short time*; and unless they run on the day for which they are prepared, they will change more or less, and *but seldom for the better*"—almost always, we believe (*cæteris paribus*) for the worse: "except, indeed, they should not have been forwarded sufficiently early up to the time they ought to run. Now, such horses as are employed for pleasure, saddle-horses, if regularly fed and exercised, and in other respects properly looked after, will be healthy and kind in their skins, with a sufficient portion of flesh in them; and they are then considered by the pad groom to be in condition; and so they are, and in a very proper state for the purposes for which they are intended to be used. But, even in these horses, if neglected in any of the little essential regularities in the management of them, as that of being allowed to lie by only for a few days, a change in their appearance from the healthy state described will be observed." Ay! without this neglect of "little essential

regularities" will such changes follow, in despite of our utmost endeavours to counteract them. The organ has been wound up to the top of its spring, and will, in that condition, play well and vigorously : but, by the laws of both physics and metaphysics, decline it must in power as it continues to play on—the spring, the *primum mobile*, must from this pitch of strength grow weaker and weaker as the machine works on ; and the works must go down, or nearly so, ere they can be again brought to the acme of excellence from which they have but so recently descended.

Little way as we have proceeded into the present volume, we will venture to affirm, our readers will not dissent in opinion with us, when we declare it to be nowise inferior in excellence to the one which preceded it; of the two, for our own part, we should say it was the better one. In a conversation we held on this subject, we perfectly well remember a friend of our's informing us, that, at Newmarket, they said, "there was nothing *new* in Mr. D.'s work." Admitting that it contained only what is and has long been known on the subject, we should say, that there was very great credit due to Mr. Darvill for having collected such a lot of rough diffused materials; and still greater, for having treated a subject which, at first sight, hardly seemed to admit of systematic arrangement, in such a methodic and concise style : and, at the same time, as we intimated before, in language such as was suited to no other subject, and yet without which the subjects of racing and training could scarcely have been intelligibly treated. No person at all conversant in such matters can read a single line of Mr. Darvill's work without feeling assured that the writer has himself been the actor of a part which he is desirous to teach others to perform ; and we should unhesitatingly say, that the young uninitiated jockey or trainer might, providing he were intelligent and industrious, gain more information by the careful perusal of Mr. Darvill's work, than many years might put him in the possession of, spent in the ordinary routine of the stable.

Veterinary Jurisprudence.

By M. U. LEBLANC.

AN INTERMITTENT SYMPTOM, THE CAUSE OF WHICH IS
A MALADY SUFFICIENTLY VISIBLE—CAN THE ANIMAL
BE RETURNED ON ACCOUNT OF IT?

I DO not think that he can, because the appearance of this intermittent symptom might always have been presumed by the purchaser of an animal that exhibited an evident defect to which this symptom is plainly referrible.

It is different when a malady is only cognizable by one or more transient symptoms ; such an unsoundness may be consi-

dered as obscure at the time of purchase, and in that case the horse might be returned.

A horse has a deformed hock—it is double its natural size—on several parts of it there exist prominences, anormal, irregular, hard, insensible to the touch, and without heat. He carries on his hock a considerable mass of periosteal growth—he has a bone spavin, a curb, or a splent, apparent enough to the most careless observer. The horse is lame in this limb. The lameness is intermittent. The limb, carefully examined, presents no other lesion which would be the cause of lameness. He was not lame when he was bought; but it is plain that the periosteum, unnaturally extended around the articulations of the hock, is the cause of the present lameness. What right can the person who has purchased such a horse have to return it on the seller? The lameness was nothing more than one of the probable or necessary consequences of the injury of the hock; an injury that was sufficiently apparent by other and not equivocal signs. The vender has a right to maintain, that when he sold a horse with a hock so deformed, he could not be compelled to give a warranty against that which was the natural consequence of this deformity, and visible to every eye at the moment of sale.

In such circumstances it is not sufficient to say that it was an *old lameness*, in order to be enabled to return the horse.

Many veterinarians, however, are of a contrary opinion. They say that an animal has, in technical language, “an old lameness,” when that lameness is intermittent; and whether the cause of it is apparent or not; “because,” say they, or, at least, so I have heard them explain the matter, “a horse with bony enlargements about the hock is not necessarily lame, and the buyer, who does not see him lame, thinks that he is purchasing a horse with spavin, or curb, &c., but not with intermittent lameness; and, therefore, is so far injured by the vender.” This reasoning is specious, but it will not bear close examination. It cannot for a moment be sustained, that when a person buys a horse with the knowledge (for that is always supposed) that he has spavin, or curb, or splent, he can justly complain, or wish to return the horse, on account of any of the natural or probable consequences of those diseases.

If I wished to maintain an opinion contrary to that which I have now expressed, I might, perhaps, demand of him who told me that the intermittent or occasional lameness of the horse proceeded from the visible bony enlargements, whether it might not possibly be the symptom of some other lesion not apparent. It would be impossible for him to deny that this might be the case. There would be some slight shadow of propriety in this mode of reasoning, because, unless, in very peculiar circumstances, we can appreciate the physical effects of certain lesions, there is nothing

certain in medicine. But I ask, where is the veterinarian who, when called upon to give an opinion of the state of a lame horse, and to indicate the cause of the lameness, will not say in his certificate, that it arises from these bony enlargements, when such enlargements are evident in the horse he is examining. To form any other conclusion would be as unreasonable as to hesitate to acknowledge as the cause of lameness the prick of a nail in the foot of a horse that before the accident was not lame. For myself, I should not for a moment hesitate to pronounce that a horse, lame behind, and that had his hock surrounded by bony tumours, was lame in consequence of these exostoses, unless I saw some other plain and manifest cause of lameness.

By the same.

INTERMITTENT OPHTHALMIA — OUGHT A HORSE TO BE RETURNED FOR IT UNDER ALL CIRCUMSTANCES?

Certainly not. If the horse was blind before the sale, or his vision materially affected in consequence of cataracts, that would not have escaped the observation of a careful purchaser. The buyer has no right to set aside the sale because inflammation may have returned, for, under such circumstances, this inflammation cannot be said to lessen the value of the horse; nor is any injury done by the seller, or at least the judges will not suppose so, even although the buyer should affirm that he thought he had purchased a horse with two sound eyes. Neither can the purchaser say, as has happened in many instances, that he was aware that he bought a horse with two cataracts, but did not mean to buy one that had periodical ophthalmia. This manner of defending the thing has its advocates among some veterinarians, but there is too much of quibbling, and too little of justice about it; and it has not, so far as I am aware, succeeded before any of the tribunals.

If a horse has a cataract in one eye, and he is, after the purchase, attacked with periodical ophthalmia in both eyes, I think that he may be returned; for, in that case, the renewed inflammation does lessen the value of the animal; but no person, so far as my knowledge extends, has hitherto contested this case.

A horse, one or both of whose eyes present some visible lesions, as the mark of some former ulceration (*leucoma*)—a spot—a cloudiness—a partial opacity of the crystalline lens, can he be considered as subject to periodical ophthalmia, and, therefore, returned if inflammation reappears? Most certainly; because it is the nature of ophthalmia to be intermittent, periodical; and because these traces of former disease render it probable that more serious lesions will follow, and terminate in total blindness, and thus materially diminish the value of the animal. I should found

this opinion on what veterinary surgeons know of the greater or less serious character of these lesions when they exist in a horse that is not at the time labouring under periodical ophthalmia. They know that leucoma—a spot—a cloudiness—a partial cataract—may exist for a long time without producing blindness; that some of them may disappear, as detached spots, and cloudiness; that leucoma may be stationary during the life of the horse; and that the progress of cataract is sometimes exceedingly slow.

I know that all my brethren do not agree with me in opinion here; but I submit this for public discussion.

Journal.

Miscellanea.

REGENERATION OF A COW.

A GENTLEMAN applied to Mr. Hobler, the chief clerk, to know whether the Lord Mayor could remedy a case in which it could not but be considered that a very gross imposition had been practised. The case related to an old cow that had been sold, and foisted upon the seller very soon afterwards as a young one. Mr. Hobler requested to know how the deception was practised, as the imposture was to be collected from the circumstances. The gentleman said that his friend had been already so much laughed at for allowing himself to be imposed upon that he could scarcely appear among his neighbours. It would, therefore, be injudicious to mention the case in a place where every thing that is said appears before the public at breakfast next morning. Mr. Hobler said the public would, perhaps, be benefitted by the recital, and that the trick, if exposed, would stand no chance of being repeated.

About a fortnight ago a farmer, residing in Epping Forest, having rather an elderly cow which began to be very slack of milk, determined to get rid of her, and purchase another. He accordingly took her to Romford fair, and sold her to a cow-dealer for £4 10s.; not seeing any other cow in the market that he liked, he returned home satisfied with the price he had got for the "*old un.*" The cow-dealer calculated on Smithfield as being a better emporium for disposing of his bargain, and accordingly drove her there in order to sell her to the polony-pudding merchants; but there happened that day to be a glut of that description of dainty. The cow would not sell even for the money he had given for her, and the owner was about to dispose of her for less, when a *doctor*, who had been regarding the beast for some time, offered for a fee of 5s. to make her as young as she was ten years before. The fee was paid, the doctor took the patient into a stable, groomed and dressed her all over, prescribed some strange diet, sawed down her horns

from the rough and irregular condition to which years had swelled them into the smoothness of youth, and delivered her to the owner more like a calf than the venerable ancestress of calves. The cow-dealer was struck with her transformation, and it immediately occurred to him to sell her for the highest price possible, and not to say a word of her infirmities and deformities. Having learned that an Epping farmer was in want of a cow, he thought that he could not send his bargain to better quarters than those she was accustomed to, and forthwith dispatched her to Romford, where her old master was on the look out for a beast. She immediately caught his eye. He asked her age. The driver did not know, "but she was a fine young un." "I've seen a cow very like her some where," said the farmer; "ay," said the driver, "then you must have seen her a long way off, for I believe she is an Alderney." "An Alderney! what do you ask for her?" The price was soon fixed, the driver got the sum of £15 17s. for the cow, and the farmer sent her home. The ingenuity exercised may be guessed at from the fact that the person who drove the cow home had been at her tail twice a day for seven years, and yet he did not make the discovery, although she played some of her old tricks on the journey, and turned into the cow house and lay down with all the familiarity of an old acquaintance. At length the discovery was made; the cow was milked and milked, and the most that could be got from her was a pint, and that but little more than sky-blue. The farmer in grief and astonishment sent her to the cow doctor who had been in the habit of prescribing for her, and complained that she gave no milk. "Milk!" said he, "how the devil should she, poor old creature? Sure it is'nt by cutting her horns, giving her linseed oil cakes, and scrubbing her old limbs, you can expect her to give milk?" The farmer was soon convinced of the imposture, and would forgive it if the laugh against him could be endured.

Mr. Hobler regretted that the Lord Mayor could not interfere. He believed that the farmer must be content with the benefit derived from his experience; and it was to be hoped he would take a judge with him the next time he went to buy a cow. Some facts had reached him about the transformation of old jaded horses into spirited steeds, but he had not before heard of the effect filing down cows' horns had in restoring age to youth. He supposed this must be what is meant by "grinding young."

Farmers' Journal.

THE SMITHFIELD HORSE MARKET.

EXTRACTED FROM THE MINUTES OF EVIDENCE BEFORE THE SELECT COMMITTEE ON THE STATE OF SMITHFIELD MARKET.

THE horse market is only once in the week? No, on the Friday. It commences, in the summer season, at three in the

afternoon, and closes at seven, or as soon after as we can get them from it. In the winter season it commences at two, and closes at the dusk of the evening.

What is the number of horses that come into the market, and the state of the neighbourhood in consequence of that number? At this season of the year (July), I should suppose there are from 300 to 350, or 400, and from 50 to 100 asses brought in, and the scene of confusion is beyond all description. It brings together all the thieves and rogues within ten miles of London. It is the most abominable scene that can be imagined. I would rather be there ten Mondays than one Friday afternoon.

From whence does the supply of horses arise? From all parts of the country.—Do you think there are any that are stolen? Occasionally there are some.

Does that market facilitate the stealing of horses? I cannot say.

Do they run the horses up and down the streets? Yes. I place officers at the ends of the streets to prevent them driving on the pavement, and to prevent any persons riding them, and to exclude any carts brought there for sale.

Are you aware of any accidents having happened there from the horses lately? There was a woman, four or five weeks since, had her leg broken; and a child had its arm broken by the kick of a horse about two months since.

Do the horses come in at such an hour as to cause any inconvenience to the drovers and butchers? In the winter time they do. At this time of the year I place officers at the different avenues to prevent them coming in till the cattle are out, but that causes great inconvenience in the avenues.

Is there a register kept of the horses sold? Yes; if they choose to pay a shilling they may have the horse registered.

Is it the practice not to have the horses registered? If a person wishes to recover he has them registered.

What is the practice? To book then, as it is called.

Do they pay for the ties of the horses? I do not know what they pay. A portion of them are tied up, but the greater proportion stand out; these are a great nuisance. Those that are tied up are the most valuable.

Those that stand out pay nothing? No.

What is the average value of the horses sold there? You may buy a horse there from 20s. to 100 guineas.

Do the knackers buy many horses there? A great many.

Are they generally a more riotous class of people and more lawless than attend the horse-market than attend the cattle-market? Yes, they are the most lawless set I ever saw; if we interfere we are generally obliged to take our staves and fight.

Have you ever taken any of these persons before the magistrates? Repeatedly, and locked them up for being disorderly.

Where do those persons generally come from? From all round London, within ten miles.

You are obliged to keep the officers in such a position as to prevent the horses getting out among the people? Yes.

Was not a man executed a short time ago for stealing horses that were sold in that market? Yes, there have been five or six executed within the last few years that were detected in Smithfield market.

Is there much cruelty practised upon the horses? Yes, they tie them up, and keep whipping them all the afternoon.

Is the cruelty worse than is exhibited at the repositories for the sale of horses, Sadler's and other places? Not when they are first tied up; but it is to keep up their mettle.

What inconvenience would arise if that horse-market were abolished? I cannot see any; it would only be an inconvenience to the public houses.

Do the drovers that bring up cattle also bring up ponies and horses to Smithfield? No, I believe not; *they are a different sort of people*. The Welshmen bring up ponies, but they do not bring them to Smithfield.

Does the market close at seven o'clock? No, it is eight before we can get rid of them.

Do the people that attend the market lie about the public-houses for hours afterwards? Yes, some of them.

Are they the same people that sell the asses that sell the horses? No; they are a different people; *they are a better set of people*. We have not half the trouble with the people that sell the asses, that we have with the dealers in horses.

Are there regular horse-dealers that attend? Yes, there are some.

What people generally attend with the asses? They generally come from London, but there are some from the country.

You say the people that attend with asses are a better class of people than those who attend with horses? Yes; they are the costermongers of London.

TO CORRESPONDENTS.

We must again appeal to the kind forbearance of several Contributors, whose communications shall speedily appear.

The History of the Edinburgh School, and of the medical Practice of that in Nassau Street in 1834, and the Visit of Paul Pry, must also be deferred.

The communications from Lancashire and Derby shall have the consideration they deserve. There are many circumstances that must be carefully and anxiously weighed.

Mr. Lawrence's work has been received.

The "Communications on Sleep,"—will our readers and friends give us a spare half hour when they can? Y.

THE VETERINARIAN.

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLVI (continued).

The Treatment of Apoplexy in the Horse—Apoplexy in Cattle, Sheep, Dogs, and Swine.

BLEEDING.—Whatever is the cause of this disease? the essence of it is determination of blood to the head; and therefore bleeding is the first measure indicated. It is sanguineous apoplexy, and the vessels of the encephalon must be unloaded.

The Jugular Vein to be opened.—The jugular is the vessel immediately indicated, as that the opening of which promises the greatest benefit. It is easily got at; it is large; and the blood may be drawn in a full stream: being also the vessel through which the blood is returned from the head, venesection here will embrace the double advantage of local and general bleeding. The greater part of the blood will be drawn from the overloaded organ; while the quantity that may be easily and rapidly abstracted from that organ will have its desired general effect.

No definite quantity of blood to be taken away can be fixed. We have done with this method of bloodletting; we look to the effect produced, and not to the number of pounds. The horse with staggers should be bled until the pulse falters, or the animal begins to blow, or, perhaps, with more assured success, until he falls.

Not from the Temporal Artery.—Some have proposed to bleed from the temporal artery; and they tell us, that although it is a good thing to carry away the surplus quantity of blood, it is a much better one to cut off the supply. Granted: but the supply is not cut off by opening the temporal artery, for no portion of its blood goes to the brain. It is justly described by our first anatomical writer as one of the terminating branches of the external carotid. It is difficult to open so as to obtain a stream that promises any success; and it is more difficult to stop the bleed-

ing unless the vessel is cut across, and thus retracts by its inherent elasticity, and becomes compressed by the neighbouring integument and cellular substance. I sometimes fancy that it is a very foolish species of charlatanism which induces us to select the temporal artery. The jugular may do very well for common occasions, or for thoracic and abdominal complaints; but here is a serious affection of the head, and we may be thought to display our practical skill by selecting a vessel belonging to the head for the abstraction of blood. We should take care, however, that no *practical anatomist* stands by when we make this attempt at effect.

The Necessity of ascertaining the Cause of the Disease again enforced.—We must next turn to account the intelligence which we have obtained of the previous circumstances of the case. Is it known that the animal had got at the corn, or pea, or chaff-bin, and that his stomach is probably distended to the utmost; or, at least, so distended as to be unable to contract upon its contents? or on that or the preceding day had he worked harder or longer than usual, and then, according to the foolish kindness of many travellers, had had a double feed of corn given to him, or was suffered to eat as much as he liked? In this case I ask, with my excellent friend Mr. Percivall, of what avail can we expect our physic to be, introduced into a stomach already crammed with indigested food?—what effect can even twelve or twenty drachms of aloes have poured down the œsophagus, and scarcely able to penetrate into the stomach?

The Stomach-pump.—We have relieved congestion, and somewhat lessened the tendency to inflammation by our bleeding; but we must not leave the cause of that congestion and inflammation untouched, and we probably cannot touch it by our physic. Then next comes the stomach-pump—to us one of the most valuable discoveries of modern times, and affording us the means of combating several diseases which had previously set all medical skill at defiance. We must inject warm water; the horse is incapable of offering much resistance: and we must continue the injection not only until we have so far diluted the contents of the stomach that a portion of them will escape through the pyloric orifice, but until the obstruction to vomiting offered by the ureter-like entrance of the œsophagus is overcome, and the food is returned through the nose or the mouth.

Physic.—This being effected, or we having ascertained that there was no extraordinary cause for the disease, nor probable extreme distention of the stomach, although it may still be the result of bad management; or that by mere possibility, and in a very few instances, this affection of the head can be traced to

no assignable cause,—we administer our physic. The aloes will be the best, and in quantity varying from six to twelve drachms. Thus the intestinal canal, which to a greater or less degree will share in the oppression, will be evacuated, or some cause of irritation probably removed.

The Doses of Aloes administered by some French Veterinarians.—I cannot, however, recommend you to adopt the seemingly outrageous doses of aloes to which some of our continental brethren have recourse. M. Mangin had tried without success various methods of treating staggers; but observing that in many cases the large intestines were filled with a great quantity of fæces, he began to suspect that they, and not the stomach, might occasionally, or oftener than we suspected, be the seat of the disease, and he determined that he would try what strong purgatives would do. He soon had opportunity, and, in the space of twelve hours, he gave to a horse with staggers four drinks, each of them containing two ounces of aloes and three ounces of Epsom salts. The horse was well on the sixth day. He gave the same quantities of purgative medicines to three other horses, and he saved them all. This becoming a matter of much remark, Professors Dupuy and Bardin were desired by the French government to examine into the matter. They reported that the cases had been correctly stated, yet, notwithstanding the success which attended the treatment, they were disposed somewhat to blame M. Mangin for administering such large doses of aloes in so short a time. The practitioner replied that, the horses being in a comatose state, purgative medicines would not act with their usual energy; and so the matter rested. To a certain degree M. Mangin was right; yet he should have recollected that the organic nerves were not those primarily affected in such cases, and I confess I should be loath to give such doses.

Tonics.—Many practitioners are fond of strong stimulants given internally, and with the view of causing the stomach to contract upon its contents. If they are admissible at all, it is in order to restore the tone of the stomach after the greater portion of its contents have been expelled. I should prefer giving them with the physic. I would add double the usual quantity of ginger to the physic ball; or if I gave my physic in the form of a solution of aloes, I would add an ounce of the tincture of ginger.

The beneficial Effect of Bleeding.—A French veterinary surgeon has recorded in the *Recueil de Méd. Vét.*, tome v, two cases of the successful treatment of staggers running on to phrenitis.

He thus describes the first case:—A horse, after a fatiguing

day, was suddenly taken ill. M. Gerard found him with his head depressed, resting upon the manger, and the forehead forcibly pushed against the wall. His breathing was laborious; the eyes were haggard and very brilliant; the ears cold; the subcutaneous veins of the head swelled; the pulse hard and slow; the body covered with perspiration, and the extremities cold and drawn together. M. Gerard attempted to bleed him, but he was seized with a violent paroxysm—leaped into the manger, and beat his head against the wall. M. G. however succeeded in abstracting nearly seventeen pounds of blood. The animal became quiet, and remained in a dosing state all night; and although it was observed on the following morning, that the pulse was free, the eye was fixed, and the sight was gone. Ten pounds more of blood were abstracted, and a drink with opium attempted in vain to be given. In the evening he became frightfully violent. M. G. managed to cut off his tail, and he was suffered to bleed until he fell exhausted; and even then the bleeding was permitted to continue, until it stopped spontaneously.

On the next morning he was quiet; he had partly recovered his sight, and was eating. Eight days afterwards he returned to the ranks.

Observations.—This is a valuable case, as illustrating the beneficial effect of venesection in this disease, and the extent to which it may be safely carried.

Effect of Opium.—The second case recorded by this gentleman is a very singular one. A horse, apparently well over-night, was suddenly seized with a violent fit of mad staggers. He had broken from the stable, and escaped into the yard, and destroyed every thing within his reach, but was at length exhausted, and was lying on the ground when M. Gerard first saw him. He was completely blind; the jaw was locked, the body covered with sweat, and the pulse inexorable, although the artery was distended. He opened both the jugulars, and abstracted twenty-nine pounds of blood. Four hours afterwards the horse was down, with his head against the wall, and with occasional spasmodic movements of it. The pulse was fifty-six and strong, and the blindness continued. M. G. abstracted ten pounds more of blood, and, not content with this, docked the horse, and suffered the bleeding to continue as long as it would. At night the pulse had sunk to forty, when M. G. gave *two ounces and a half of indigenous opium* in a drink, and administered two ounces more in the form of injection.

On the following morning the pulse was soft, and the horse had partly recovered his sight. The same quantity of opium was repeated by the mouth, and administered in an injection, morning

and night, and also on the three following days; but whether once or twice in the day, the report does not clearly express. The horse had been getting better all this while, and on the tenth day from the first attack he returned to his work.

Observations.—This is a marvellous account. I give it to you as I find it, and it should have a page in your case books. The good effect of bleeding I can well believe, although I should not have dared to have carried it to such an extent. I think that I should have been satisfied with abstracting forty pounds of blood in four hours, without the after and long-continued bleeding from the tail: but, as to the opium, I must agree with M. Yvart, that the effect here attributed to it is contrary to all experience. We find that it not unfrequently produces states of the system not unlike staggers. When we give it in considerable quantities in cases of violent and obstinate diarrhœa, it usually does its duty, so far as the mucous membrane of the intestines is concerned, but the horse becomes somewhat dull and off his feed. The case, however, is worth recording, and you will judge of it as you think proper.

After Treatment.—This must be regulated by circumstances. For some time the horse should be put on a restricted diet: mashes—green meat in no great quantity—a moderate allowance of hay—little corn. When sufficiently recovered, he may be turned out with advantage on rather bare pasture.

Liability to return.—One circumstance, however, should never be forgotten, that the horse that has once been attacked with staggers is liable to a return of the complaint from causes that would not affect another horse. The distended vessels are weakened, the constitution is weakened, and prudence would dictate that such a horse could not be too soon disposed of.

Apoplexy in Cattle.

Oxen are far more subject to apoplexy than the horse. They are naturally more plethoric. They are continually under the influence of a more stimulating and forcing system; and that without the exercise by means of which the injurious effects of this system are in a great measure counteracted. The food of the horse is regulated by this consideration, that, while he obtains muscular power equal to the work we require from him, there shall be no useless accumulation of fat to impede him in that work; whereas the very object in the feeding of the ox is to clothe him with as much flesh and fat as possible: consequently he is far more subject than the horse to all the diseases connected with redundancy of blood, and to apoplexy among the rest.

Symptoms.—There are few premonitory symptoms in these cases. The animal is struck all at once. The disease is termed *blood-striking*. Had he been closely observed, it might have been perceived that he was more than usually indisposed to move, that the breathing was a little laborious, and the eye somewhat protruding: but the herdsman takes no notice of trifles like these; *the animal seems to him to be struck all at once*; he falls, breathes stertorously and heavily, struggles with greater or less violence, and dies, sometimes in five minutes—oftener at the expiration of a few hours.

Remedial Measures.—If we had time to do any thing, we should bleed; we should here, as well as in the horse, abstract as much blood as we can. To this should succeed a dose of physic. The Epsom salts are the best we can give, in doses of a pound and a half in such a case as this, and without any carminative, and followed up by doses of half a pound every two hours, until the physic operates; its action should then be maintained by half-pound doses of sulphur every morning.

Apoplexy in Sheep.

This disease is more prevalent and more fatal in the sheep than in the ox. I will suppose a flock of sheep, apparently in perfect health, grazing on a pasture somewhat too luxuriant; they have been lately put upon it; they perhaps have been driven a little distance to it, and the weather is hot; or I will merely suppose that the pasture is good and the sheep in high condition. All at once, one of them stands still; he remains as if he were fixed; he is unconscious of every thing about him: by and by he begins to stagger, he falls, he struggles, usually not much, and he dies; and all this takes place in less than a quarter of an hour.

Premonitory Symptoms.—Here too, if the looker had done his duty, he would have been aware of what was coming. He would have seen that the sheep was dull, that it lagged behind in the flock, that its flanks heaved, and that rumination had ceased. Then we might have had some chance of subduing the disease; but none in the world afterwards.

Mr. Hogg, in his treatise on sheep, says, that such as feed in woods are subject to temporary fits of the staggers, appearing as if intoxicated; but they soon recover, except they are harassed or driven, or exposed to sudden exertion, or are previously full of blood. In his opinion, “nothing induces this temporary stupor more than a hearty feed on broom in frosty weather, and which so overpowers them, that they will lie sprawling for several hours as

if in their last throes. A shepherd of Traquair one day found a number of his sheep intoxicated in this way, and, thinking that they were at the point of death, he cut the throats of four of them, that their flesh might not be lost ; and he would have dispatched them all, if his master had not opportunely arrived, and abused him for a blockhead, and asked him how he would like it if people were to cut his throat when he was drunk ?”

Treatment.—Whenever a sheep is found lagging behind, standing still if he can, and with his head down, stupid, half blind, and half deaf, he should be bled. No harm could ever ensue from this, and many an animal would be saved. It is a bad practice when the dead sheep are the shepherd’s perquisite. I will not say that he will be purposely blind ; but he will not have the stimulus to careful observation, which a regular perquisite for the detection of these incipient and obscure diseases would afford.

Bleeding.—This is the first measure, and to the extent which the case may indicate or that the animal will bear. I should take a pound as about the average quantity that should be drawn at the first bleeding ; and that not taken from the eye-vein—the vessel usually opened by the shepherd and by the farrier too—for the most adroit of them cannot always obtain any great quantity of blood from this vein, and seldom can they obtain it so rapidly as it should be drawn ; it should be drawn from the jugular, a vessel quite as easily opened, and from which the blood will flow in a much fuller stream.

Physic, &c.—Five ounces of Epsom salts should be administered as soon as possible after the bleeding, and an additional ounce every six hours, until the bowels are opened. The animals should be moved to thinner pasture, or perhaps taken into the farm-yard and most sparingly fed.

Apoplexy in the Dog.

I have never seen a case of true apoplexy, either serous or sanguineous, in the dog. Almost every cerebral affection in this animal takes on the character of epilepsy. There is increased excitement, rather than depression. The pathological reason for this I am unable to give.

Apoplexy in Swine.

In an animal fed to be “as fat as a bacon hog,” you may expect that cases of apoplexy will be frequent enough ; and so they are, and characterized by the same suddenness of attack

and fatal termination as in the ox and sheep. Sometimes it rages like an endemic through the piggery. The remedies are, as in the other cases, bleeding, but here from the palate, for we could not manage the hog sufficiently to open the jugular. Epsom salts or sulphur should be given as purgatives. The subsequent, and also the precautionary measures, are food less in quantity, or of a less stimulating character.

ON WOUNDS PENETRATING INTO THE CHEST OF THE HORSE.

By M.M. U. LEBLANC, M.V., and Principal Editor of the *Journal de Méd. Vét.*, and A. TROUSSEAU, M.D.

[Continued from page 11.]

11. *Simple Wounds of the Parietes of the Chest, with the injection of water at different temperatures into the pectoral cavity.*

WE have attempted this experiment on two horses. We injected four ounces of water at a temperature of 10° (54° Fah.) into the left pleural cavity. The respiration was increased during some instants. He pawed with his fore foot for several minutes afterwards, and then every function seemed to return to its natural state. The operation was carefully performed, and no air was suffered to enter the wound.

We injected, or rather poured, into the left pectoral cavity, six litres (rather more than $12\frac{1}{2}$ lb) of water, at a temperature of $32^{\circ}+0$ (90° Fah. ?), and a very small quantity of air only entered with the water.

The operation was performed at $3\frac{1}{2}$ P.M. Immediately afterwards the respiration became accelerated, and the flanks fell suddenly when every act of expiration commenced. The sound returned by percussion was diminished towards the inferior part of the left pectoral cavity. At $3\frac{3}{4}$ P.M. the right side had lost its resonance, probably because that, during the quarter of an hour that had elapsed since the introduction of the water, the liquid had found its way from one sac into the other. Ten minutes after the injection the horse had a strong shivering fit, and during this time the animal dunged twice, and pawed the ground with his foot. At $4\frac{1}{4}$ P.M. he lay down; the respiratory action was exceedingly quickened, and the *soubresaut** of broken wind was strongly marked. He ate with appetite the hay that was

* The term *soubresaut* is applied by the French to that double convulsive muscular effort seen in the flank, which accompanies the act of expiration.

offered to him, and he even seized it greedily while he was lying down. At 10 o'clock he was still lying down; he breathed with great difficulty, and the *soubresaut* of broken wind was evident.

On the following morning he was still lying; the respiration was more accelerated, and the *soubresaut* more marked. In the evening he had not got up; his mouth was open; his nostrils dilated beyond measure: no vesicular respiration, but we heard only a puffing sound towards the end of the expiration.

The horse died during the following night.

He was examined at half past eight on the morning of the following day. The left pleural sac contained about two quarts of bloody serosity, with a firm and yellow clot floating in it, about the size of a fist. Other little fibrous clots adhered to the pleural covering; there was no trace of vascularity in them, but the sub-pleural cellular tissue, both costal and pericardic, was strongly injected.

The left lung did not fill more than a third of its proper cavity. Its costal surface was rugous at several points. The rugosities were attributable to an infinity of false membranes, formed on the pleura. The portions of the lung which corresponded with these granulations were condensed and highly red. Their interlobulary and sub-pleural tissue was infiltrated: in a word, it was the seat of pneumonia, which extended deeply into the lung, but which was not by far so intense as the inflammation on the pleura.

The right lung was not inflamed. The pleural sac on that side contained a little bloody fluid, but no false membranes.

Into the chest of a third horse we introduced about two quarts of water, at a temperature of 8 (50 Fah.) degrees; but, for a reason which it is scarcely worth while to report here, we could not detain the horse more than two hours after the experiment. During that short space of time we perceived that he had a shivering fit; that he pawed with his foot; and that he continually lay down, and got up again, as if he had colic. These two last symptoms, which we thought rather extraordinary in this case, have constantly appeared whenever we have injected alcohol and saline solutions into the chest.

12. *Simple Wounds of the Parietes of the Chest, with the Injection of Alcohol.*

The symptoms and lesions which follow the injection of alcohol into the pleural sacs are analogous to those produced by the injection of a considerable quantity of water; only they appear, and attain their utmost intensity with greater rapidity, and the animal sooner dies. Alcohol always produces pneumonia, pleurisy, and often pericarditis when the patient lives two or three days. The only peculiar circumstance which we have remarked

is, that the fibrous coagula, small in bulk, have a loose and open texture, and, if they are not attached to the pleura, float in the effused fluid.

13. *Simple Wounds in the Walls of the Chest, with the Injection of a saline Solution.*

We have experimented only with the solutions of the tartrate and nitrate of potash, in the proportion of two drachms of the salt to five decilitres (a little more than a pint of water), and at a temperature of 54° Fah.

We remarked in two cases, that, as soon as the solution was injected, the animal had a shivering fit, and that he gathered his legs under him and lay down. The respiration and the pulse were much accelerated; they again became slower when ten minutes had passed, but did not regain their natural standard. Then succeeded all the recognized symptoms of pleurisy and pneumonia.

On one of the horses, into whose chest we had injected a solution of nitrate of potash, we attempted a double experiment, with the view of discovering what might be the influence of intense pleurisy on the absorption of blood injected into the chest.

The injection of the saline solution was made on October 27th. On the 30th, the horse, although he had pleurisy well marked, was yet tolerably lively. We therefore attempted to inject four pounds of blood into his chest, by means of the opening through which the solution had passed; but we found an obstacle to this in the thickness of the walls of the thorax, for false membranes, of considerable firmness, had already closed the aperture. As, for aught that we knew, the lung might be here adherent to the side, we preferred to make a new opening more posteriorly, where we should run less risk of finding false membranes. We were thus able to inject the blood immediately after it had been drawn from the jugular. This new experiment hastened the death of the horse. He died on the 31st, at night.

He, like most of those on which we had experimented, had retained his appetite almost to the last. This would prove that there is a difference between pleurisy arising from the ordinary causes of that disease, and produced by the introduction of a foreign body into the pectoral cavity. This difference is in general very manifest, not only by the preservation of the appetite, but by other symptoms, which every experienced observer will easily recollect. We know, besides, that nothing is so difficult as to reproduce artificially a disease which has come on spontaneously; therefore it is that experiments of this kind, although useful, will never accurately discover to us the nature of the different lesions which either constitute the disease, or are produced by

it, because there is always something in the disease which it is impossible to produce, however we may try to place the subject of the experiment in the circumstances which are recognized as most proper to produce the affection which it is our intention to create.

14. *Contused Wounds of the Parietes of the Chest, without injury to the lung.*—It is rather to fill completely the outline which we had traced before we commenced our experiments that we now devote a line to this species of wounds, for, in truth, they do not merit serious attention. We have nothing to observe regarding them, that all our readers, probably, have not had the opportunity of frequently observing.

Journal, Sept. 1834.

[To be concluded in the next number.]

POLYPUS IN THE PHARYNX.

By Mr. S. GOODWORTH, V.S., Driffield.

I WAS called in a short time ago by a gamekeeper in this neighbourhood to look at a young bay mare that was sent to be slaughtered for the dogs. She had been under medical treatment for twelve months, and was considered incurable. She was four years old, and had the appearance of a well-bred animal. Before destroying her, the keeper wished to have my opinion, and, if possible, to save her.

Her disease was said to be fits. She was taken into a paddock, and trotted two hundred yards and back again to the place where I stood, when she immediately fell, and had a most violent struggle for a short time; she then rose, and was as well as ever. Before she fell, she took a deep inspiration, and when she could again respire she was relieved, and the fit passed off.

I was convinced that there was an impediment at the top of the trachea which it would be necessary to remove, and I agreed to have the mare sent to my stable.

Treatment.—I cast her and put a gag into her mouth; I then introduced a probang, which required a little pressure in order to get it into the stomach; and in drawing it up again it was impeded by a lump in the throat, which brought on one of those severe struggles that I had before witnessed. When she recovered from its effect, I introduced my arm to convince myself of the cause, and I found a substance which I endeavoured to burst or drag out: it escaped from my fingers, and I lost it.

I then performed the operation of tracheotomy, and let the mare rise; she was much relieved, and ate and drank better. I took a little blood from her, and gave an aperient mixture, which had the desired effect.

She continued to do well, and in four or five days I gave her exercise, which she bore well; even trotting and severe exertion did not produce any of the former symptoms. She continued thus for a fortnight, when she altered for the worse, and began to toss her head and catch her breath with difficulty, whilst eating. Her appetite decreased, and she gradually got worse until she scarcely ate or drank any thing; in fact, I found she was as bad as when she first came to me.

I cast her again, and felt the same substance as before; I grasped it with my fingers, and pulled with all my power, but it resisted my efforts. I then got a cord, and made a running noose in it, which I put round the neck of the substance, and tried to drag it from its hold: my efforts broke the string. I got another cord, and again secured it round the substance, and this time I succeeded in pulling away a lump as large as a hen's egg. It appeared to come from the roots of the tongue, and when the mare was in exertion and obliged to take deep inspirations, to have acted as a valve upon the epiglottis, and to have required a powerful effort to displace it, and hence was the cause of the fits. On the next day I gave oatmeal gruel and bran mashes: the second day after the operation I found her breathing heavily, and I took four quarts of blood from her: this relieved her, and she became tranquil. In a few days she ate vetches, and grazed, and continued to go on well without further medical treatment. I suffered the tube to remain in the trachea about ten days after I had taken away the tumour; I then removed it, and healed up the orifice.

She can now travel with perfect ease, and is quite sound.

ON FARCY.

By M. HAMONT, Founder and Director of the Veterinary School at Abou-Zabel.

[Continued from p. 22.]

COLD damp situations—living and working amidst the waters—ill-constructed stables—are they alone capable of producing the farcy eruption?

It very widely exists in Egypt, more in summer than in winter, in the villages, the army, among the Bedouins, in horses that are confined, and in those that live in the open air. There the

food of the horse is rarely deteriorated. During nine months these animals live on barley and chaff, and for the rest of the year on green clover.

As long as they are fed on green meat, farcy seldom occurs : we have, nevertheless, seen it in some horses. During that season they are fat, but weak, and that weakness continues a long time. The use of the green clover, continued for three whole months, and sometimes more, may it not contribute to the development of farcy ? We are not yet able to answer that question.

The Egyptian horses that are used only for the saddle, they do not work in the water ; their food is wholesome ; they inhabit a warm climate, but farcy attacks and destroys them. In Syria it is common, but on the plains alone ; and it is said not to be found on the mountains of Lebanon.

Among the Wahabites, on the borders of the Red Sea, and thirty-two days' distance from Gedda, Dr. Gand has seen farcy on the horses that are kept at the foot of the mountains. The account which this estimable physician has given is extremely interesting. He shall speak for himself.

“The *Nejdes*, horses which are found near Chignigues (Hedjaz), not only those that are found at the feet of the mountains, but those that inhabit the highest parts, and on some which, in point of elevation, may be compared with mount St. Gothard. The disease breaks out in summer, and disappears in winter. In the hot season, during the month of July, the thermometer, in the tent, rises to 44 degrees of Reaumur (131 of Fahrenheit). It long continues between 36 and 38 degrees (113 and 117 of Fahrenheit). At that period, which is the period of farcy, the horses of the plain are fed entirely on grasses, dry, hard, and of considerable bulk : the water is stagnant, often fetid—the animals sleep in the open air.

During the winter the rains are incessant, and numerous torrents descend from the mountains. Then the grass is good and abundant ; the water is wholesome, and the horses become fat. The mountains, the summits of which are most elevated, and covered with snow during the winter, are clothed with perpetual verdure ; the plants which are cultivated there are the coffee and the doura.”

We cannot think that “inflammatory irritations of the intestines” can here occasion farcy by their “sympathetic influence.” This assertion is founded on no fact—inflammations of the intestines have their seat in the red capillary vessels ; farcy in the lymphatic vessels and ganglions. Farcy eruptions are often thrown out without the animal having shewn the least symptom of inflammation of the digestive passages—the farcy disappear-

ing as soon as that irritation has ceased. This will doubtless suffice to shew what little solidity this *theory* has*.

Farcy is a peculiar disease of the lymphatic system that we meet with EVERY WHERE, and almost only so on comparatively plain and level countries; in hot countries, as well as in cold and humid ones—in young horses, and in adult and old ones—in females as well as males. The horses which are fed on barley, chaff, oats, and hay, and on aliments of the most wholesome kind, are, if living in flat countries or districts, as subject to it as those who live upon nothing but bad, dry, and innutritive herbage. It is observed on the banks of the Nile, where the animals have wholesome water to drink, and in the villages where there are nothing but stagnant pools.

In Europe, working in the water or the rain, or living in cold humid climates, or ill-constructed stables, or damaged food, are said to be causes of farcy eruption. In this enumeration of causes nothing is said of heat. If a Wahabite is asked what are the causes of farcy, he first of all mentions “heat,” and then he adds the custom of leaving horses exposed in the air; and to these he joins barley, chaff, deficiency of nourishment, and the bad quality of the food.

Is farcy contagious? In the present state of veterinary science perhaps it is impossible to give a definitive answer. There are contradictory facts. Professor Gohier has instituted numerous experiments at the school of Lyons, the result of which is, that farcy can be transmitted, both by immediate and mediate contact. Experiments have been made by other persons, the result of which is altogether of an opposite nature. Some say that they have produced the disease by inoculation; others affirm that they have never been able to accomplish it, and utterly deny the contagiousness of farcy.

We have placed sound horses in the same stables with farcied ones, in whom the malady had existed in a very advanced stage; they have eaten together—they have rubbed against each other—they have played with each other—they have bitten each other. We have left them together five or six months, but never, so far as our experience has gone, has farcy been communicated. The matter which runs from farcy ulcers and buds has been introduced under the epidermis of the skin of several horses. One of them had chronic catarrh; he alone, at the end of five months,

* What has M. Hurtrel D’Arboval done, that he should be incessantly attacked by M. Hamont, in this supercilious, sarcastic, unbecoming manner? Surely all this shews very bad taste, and bad policy too; for we shrewdly suspect that the “theoretical” “amateur” veterinarian would have by far the best of the argument.—EDIT.

had two farcy buds on the right hind leg. This fact proves nothing. Would not the horse have become farcied without this inoculation? If the disease were really contagious, there is no country where it ought to spread itself more rapidly than in Egypt. Almost every horse would be attacked by it; for there is, both among the Turks and the Arabs, an absolute carelessness and indifference as to the mingling of farcied and sound horses. In none of the regiments are the sick horses separated from the healthy ones, until they are become incapable of service. The same soldier feeds at the same time the sound horses and the farcied ones, and they eat and drink together. The clothing, the saddles, and the bridles, pass from one horse to another; and yet the number of the diseased animals does not increase. Nevertheless, we have met with some Arabs who believed that farcy was contagious.

Can farcy be transmitted from the sire to the offspring? We think not; yet some very experienced practitioners have adopted a contrary opinion.

In order to answer that question in a satisfactory manner, it would be necessary to institute a great number of experiments; these experiments, however, must be made in localities and under conditions that are perpetually changing. Should we conclude in favour of the hereditary character of the disease when a colt from a farcied sire became farcied, when he was placed in the same circumstances and exposed to the same influences as the sire? If certain circumstances appertaining to the climate or country can produce farcy in the one, how can we conclude that it is hereditary in the other? We do, however, believe that a disposition to be affected by the disease may be communicated by the parent to the offspring, on account of the great development of the lymphatic system, and its predominance over the other systems.

M. Hurtrel D'Arboval, faithful to his theory, of which we have spoken when treating of the causes of farcy, has recommended a plan of treatment quite in conformity with this opinion. Farcy, according to him, arising from the influence of ill-managed and unwholesome stables, the working in water, and the living in damp situations, and a faulty mode of feeding—it naturally follows, that different localities, and a better regimen, ought first to engage the attention as preservative means; hence, in his estimation, the advantage of pure, dry air, removal from wet, marshy situations and stagnant waters, and the good effect of large well-ventilated stables, wholesome food, and good water. These things are altogether insufficient. Saddle-horses of a light form, well fed, and in good condition—they are kept in

elegant stables, perfectly ventilated; nevertheless, at the moment when they appear to be otherwise in perfect health, farcy buttons appear all over the body—they suppurate, and the ulcers spread, and the animals are without hesitation condemned, and judged to be incurable.

We are far from condemning the measures recommended as preservatives against farcy; but what we think is this, that, first of all, it is indispensable thoroughly to understand what is meant by good food, and pure and dry air, &c.; and we shall probably then see, that the best food which we are accustomed to give to our horses is not, perhaps, that which we ought to prescribe as a preservative against farcy. At present, however, that malady having been studied in a very small part of the world, it is impossible to assign the proper prophylactic treatment.

Having thus rapidly glanced at the practice of Europe, let us see what is done in a foreign country.

In Egypt, a flat country, we know not of any mode of treatment proper to preserve horses from the farcy. In Arabia, in the coffee country at Chignigues (Hedjaz), of which we have already spoken, farcy is never seen on the mountains. It will follow from this, that keeping them on the mountains, with good food, will prevent an attack of farcy. This is what the Wahabites do, and with perfect success. In Europe warmth is recommended; in Arabia they search for cold situations; and we have seen that farcy does not appear in the winter, and it is also at this period that the animals feed on luxuriant and succulent grass.

A mixed food, composed of animal and vegetable substances, can it produce such advantageous changes in the general economy, as to exempt the horse from the attack of farcy? This had occupied our attention before we had any documents to prove that the Arabs had been accustomed to resort to such a kind of food. It is also to Dr. Gand that we are indebted for the details we are about to lay before our readers.

In the same province of Chignigues, already referred to, a sheriff, named Ali, *an inhabitant of the plain*, had many horses very handsome, and for which he asked a great price. He was rich, and fed them with dried raisins, camel's milk, meat cut into small pieces and dried in the sun, and dates; sometimes he gave them grass, which was brought from the mountains. These horses never had farcy, although they lived constantly in the plain. This is a striking proof of the influence of vegeto-animal food.

One of us had the opportunity of seeing, for a long time, that the Wahabites were accustomed to feed their horses with beef, camel's milk, butter, &c. We beg the attention of medical men

to these circumstances, of very great interest. Ought horses to be kept entirely on vegetable food? We cannot certainly resolve this question without having visited many countries, and multiplied our observations, and compared them with those of other travellers qualified to form an opinion on such a subject.

The researches which we have been enabled to make, and which have been conducted with honesty and diligence, lead us to this conclusion, that *farcy is a disease of the plain country*. It will be evident, then, how much depends on aliment and locality, in all preservative treatment and means. Stables may be spacious and well-ventilated, but may not offer any advantage, unless they are placed in an elevated situation—unless perhaps, we give the horses a portion of animal food, that may preserve them from the attack of farcy. At the same time it will appear, that oats, and hay and oats, and barley, although of excellent quality, are not “the good food” which we should administer in order to preserve our horses from this disease.

“Vicq. d’Azir proved that broths of animal food have saved many animals that had been attacked by murderous epizootics. Although this practice, says M. Dupuy, seems contrary to our principles of medical treatment, and the nature of the food on which herbivorous animals are usually fed, we are compelled to acknowledge with Vicq. d’Azir, that in most of the successful cases that occurred in Languedoc, the beasts had been made to drink great quantities of animal broths.”

M. Dupuy, on whose valuable lectures we have had the opportunity of attending, recommended animal broths in the treatment of the rot in sheep. “By the use of animal food,” said that highly talented professor, “we have been enabled to cure diseases that had bid defiance to the ordinary means of treatment.” Medical men well know the effect of vegetable food on the carnivora, and aliment derived from the animal kingdom will produce effects as remarkable on the herbivora.

Farcy being a malady which principally attacks horses in which the lymphatic system is developed, may it not, by the aid of proper and skilful crossings, give to the progeny an organization that will render them less liable to be affected by this malady. The effects which have been produced on different animals by these means have almost exceeded belief; and often the most important changes in the form, qualities, and produce of certain animals, have resulted, in defiance of the blunders of unskilful experimentalists.

Journal.

[To be concluded in our next.]

LARYNGITIS ACCOMPANIED BY SCARLATINA.

By Mr. CHAPMAN, V.S. Southampton.

ON Wednesday, Nov. 19th, I was requested by James Young, Esq. Moor Court (New Forest), to examine a bay mare, rising five years old (by Lapdog), and which had for some time been afflicted with cough. The mare in the preceding spring had been ill with the influenza, and when she began to recover she continued weak for a considerable period. The cough soon returned, and has existed, at intervals, unto the present time. The owner wishing her to be under my care, sent her to my stables, a distance of about seven miles.

4 A.M.—Upon examining my patient, I found exceedingly dangerous symptoms, and gave the owner little hope of her recovery. Pulse 70, producing a sensation very similar to the vibration of a wire; mouth hot, schneiderian membrane very highly injected; extremities cold; coughs violently, at times so much so, that she reels against the wall of her stable; much difficulty in moving, or reluctance to move; appetite gone.

Treatment.—V.S. ℥vi; all I could obtain without producing evident faintness; the throat stimulated with emetic tartar liniment (ant. tart. ʒi to spt. tereb. ʒi), which produced very little effect; the following drink was also administered, R pulv. digital. ʒi; aloes Barb. ʒiij; aquæ pura ʒviiij, and to be repeated six hours afterwards, with potas. nit. ʒij instead of the aloes.

Nov. 20th, 8 A.M.—Symptoms much the same as yesterday; hand-rub and bandage the legs; rub into the throat blistering ointment ʒiss; give aloes Barb. ʒiss; pulv. digital. ʒi; potas. nit. ʒij. She drinks a little white water, but will not eat.

6 P.M.—Ball repeated, omitting aloes; the bowels slightly acted upon; the cough continues very violent.

21st.—She appears restless, looking round at her flanks, and pawing with her fore legs; repeat ball.

22d.—She continues much the same; no fæces having passed since the 20th, give enema with Epsom salts ℥ss dissolved; and as a drink ol. lini. ℥i.

23d. A.M.—Bowels slightly acted upon; extremities continue cold, and she refuses all food.

6 P.M.—Rather surprised to find the respiration much increased; schneiderian membrane being highly injected; pulse 68; and she is becoming very restless. V. S. ℥viiij. Repeat fever ball, drench with a little gruel, all food being refused.

24th.—Improved a little; pulse 48; still coughs very vio-

lently; the blister having acted a little is dressed with calamine ointment; repeat ball.

25th.—The kidnies appear to be very much acted upon. Omit the digitalis, give white hellebore \mathfrak{Dij} , camphor \mathfrak{Di} : the mare still refusing food she was drenched with gruel twice in the day.

26th.—Pulse very weak; membrane of the nose of a pale livid colour. Give as a drink, gentian pulv. \mathfrak{zij} ; zingib. p. \mathfrak{zi} ; spt. eth. nit. \mathfrak{iiiij} with water to make \mathfrak{viiij} . She ate a little sainfoin, drank a little gruel, &c.

27th.—Pulse much as yesterday; lies down more comfortably: eats a little sainfoin hay. She was walked out for a few minutes in the middle of the day; appears more lively.

3 P. M.—Her legs have become very hot; the mouth is hot; the schneiderian membrane has a very singular appearance, being covered with scarlet patches, irregularly formed. The hair had come off on that part of the neck where the blister had been applied, and I could discover similar patches there. I should have no hesitation in saying, that the principal, or the whole of the body, was covered with similar spots. The upper lip became swollen.

The pulse very much increased, 60. I gave diuretic ball and enema.

28th.—The scarlet patches are still existing, but more numerous than yesterday; the aqueous discharge from the nose is very profuse. Give as a drink pulv. digital. \mathfrak{zi} , aloes Barb. \mathfrak{zi} . Mindererus's spt. \mathfrak{zi} , aqua rue \mathfrak{viiij} .

29th.—Scarlet patches still remaining, though not so numerous; extremities warm; eats grass with avidity; still very weak. The loss of flesh has been very great during the last three days; she rests freely.

Dec. 2d.—Improving very rapidly; feeding well; scarlet patches still to be seen, but fewer in number. The cough still continues. Gave ball of pulv. digital. $\mathfrak{3j}$, ant. tart. $\mathfrak{3j}$, pulv. lini and petroleum Barbádense q.s. to form ball, and to be repeated every night.

17th.—The mare continues to improve; the cough has left her. She has walking exercise every day, and is now quite convalescent.

Remarks.—This case may be called "Scarlatina," from its analogy to that disease in the human subject. I very well recollect one of a similar kind to that to which Mr. W. Percivall very properly affixed the name of "scarlatina," whilst with my excellent friend and preceptor Mr. Youatt. There were numerous scarlet patches, with anasarcous swellings, &c. The patient recovered.

OPERATION FOR STONE IN THE BLADDER OF A MARE.

*By M. RENAULT, Professor of the School of Alfort, and
Principal Editor of the "Recueil."*

THE patient was a mare of small size, about fourteen years old. During the last fourteen or fifteen months the proprietor had observed that the mare discharged her urine with considerable pain, and not in her usual manner. That pain had sensibly and progressively increased since the commencement of the last winter. She frequently put herself in the posture for urining, and then discharged a very little, and sometimes none at all. When it was voided with less difficulty, it was of a deep yellow colour, turbid, thick, and a deposition was perceived on the pavement on which it had fallen; but when it was discharged after long and painful efforts, in addition to the preceding characters, it was often charged with bloody mucus.

Alarmed at this last circumstance, and which he had often observed in the course of the preceding month, and although the mare continued to work, and had not lost her appetite, the owner determined to bring her to Alfort for advice.

The symptoms were too plain for me not to suspect the existence of a *vesicular* calculus, and I was about to satisfy myself by direct examination, when she attempted to stale precisely in the same manner which the owner had described. She put herself in the usual position, and during some twenty extraordinary efforts which she made to void her urine, I saw the lips of the vulva widely diverge; and the orifice of the urethra, pushed by every effort to the very mouth of the vagina, appeared half open in the midst of a large fleshy projection, covered with mucus. A little urine, ropy, and loaded with sediment, was ejected at each succession of expulsive contractions, and some drops of blood appeared at the inferior angle of the vulva.

I did not hesitate to give it as my opinion that there was a stone in the bladder, and that it had a considerably roughened surface, founded on the discharge of a small quantity of blood, with which each violent contraction was followed: in fact, this could only proceed from slight lacerations of the mucous membrane of the urethra or the bladder; and these lacerations could not be produced by a calculus of a smooth and polished face.

I cut my nails close, and, having anointed my hand with olive oil, I waited until the mare was a little calm, and then introducing my hand into the vagina, I endeavoured to ascertain the presence and the volume of the calculus. At first I could not

feel any thing distinctly, for this foreign body was not in the pelvic portion of the bladder, but occupied the fundus of it, which lay within the abdominal border of the pubis; and on that account, as soon as I pressed lightly upon it with my fingers, in order to grasp it, and form some vague idea of its bulk through the parietes of the vagina and the bladder, it slipped from me, and escaped into the abdomen, whither I could not follow it. Soon, however, the mucous membrane of the vagina being excited by continuance of my hand within it, new efforts were made, during which the calculus was pushed violently towards the neck of the bladder, and then I could easily ascertain its form and bulk. It was ovoid, and about the size of a goose's egg.

I have said, that in the violence of these efforts the vaginal orifice of the urethra was pushed to the very mouth of the vulva. This again occurring, I profited by it, and introduced my finger into the urethra, and was enabled to touch a hard body, the surface of which was covered with asperities, so angular, that my finger, being somewhat hardly rubbed by it during one of the efforts of the mare, was slightly excoriated.

This state of the surface, and particularly the great volume of the calculus, prevented me from attempting to extract it with my fingers, as I had been able to do with other mares when the stone was not so large: I therefore determined to cut the neck of the bladder, and to extract the calculus with the forceps.

Having provided myself with the necessary instruments, I passed a canula through the meatus urinarius as far as the neck of the bladder: I then introduced a long bistoury through the canula, and attempted to cut the neck of the bladder, without success; on one account, because the *go and come* motion of the calculus, every moment pushed against the neck of the bladder by the efforts of the mare, drove away my canula and my bistoury, and also on account of the softness and looseness of the neck of the bladder which escaped from under my knife, so that I could not possibly cut it. I regretted that I had not at my command a *cystocome caché* (an instrument used by the human surgeon in lithotomy). Being obliged to do without it, I withdrew the canula, and introduced instead the index and middle finger of the left hand, resting the extremity of their back surface against the left side of the neck of the bladder, and thus constituting a support for the back of the bistoury, which I directed with the other hand, while its cutting edge was brought to act on the right side. In this manner I was enabled, yet not without difficulty, to make an incision nearly two inches long. Very little blood was lost.

I then introduced the forceps, after having anointed them with

oil; and they had scarcely entered the bladder ere they struck against the stone, with a ring so loud, as to make us believe that it was very dense. I easily seized it by its small diameter; but just as I was about to free it from the neck of the bladder, and was grasping it firmly for that purpose, it broke, and was reduced to a mass of gravel, in the centre of which were three or four fragments of the size of a small nut. I removed these, one after another, with the forceps. With the same instrument, the blades of which were very large, I likewise withdrew a portion of the gravel; but this mode of proceeding not being sufficiently expeditious, and there likewise being danger of bruising the rugæ of the mucous membrane, I made use of *une curette à rectum* (a little scoop or spoon-shaped instrument), with which I removed a great part of the mass that remained, promptly, and without giving pain. In order perfectly to empty the bladder of the debris, I injected several times a quantity of warm water, which always brought out with it a quantity of gravel, and I only ceased the injections when there were no more calculous particles to be expelled.

The mare did not appear to have suffered much by the operation, yet the pulse was full but not accelerated, and the membrane of the eye somewhat injected. The animal was put on spare diet. Mucilaginous enemata, rendered more soothing by a decoction of poppy-heads, were thrown up, and likewise into the vagina, and directed principally to the side of the meatus urinarius, and repeated every half-hour during the day.

In the course of the day, the patient several times put herself in the posture for voiding her urine, but the efforts were less violent than before the operation; and she ejected each time a little urine slightly tinged with blood, but not mingled with any gravel: she drank her white water well, and ate two measures of chaff.

2d day.—The pulse is natural; the conjunctiva no longer injected, and the animal is looking out for food: she stales at longer intervals.—The same treatment.

3d day.—She continues to improve. The same treatment with a little walking exercise.

4th day.—Much better. She discharged her urine once only in the course of the day, and no effort attended the act of voiding her urine.

10th day.—She was returned to her owner, apparently well.

An examination of different portions of the calculus proved that, before it was broken, it was composed of an agglomeration of a great number of small hard particles, united together by an earthy substance of little consistence. These particles were gene-

rally exceedingly angular, which explains the roughness of the external surface of the calculus. Like all other vesical calculi in the horse, it was composed almost exclusively of carbonate of lime.

Recueil, July 1834.

TRISMUS, SPASM OF THE DIAPHRAGM, AND GREAT NERVOUS IRRITABILITY.

By Mr. J. SINCLAIR, V.S., Morpeth.

I WAS called to a bay pony, about fourteen hands high, aged, on the morning of the 19th September, at nine o'clock. I found him with his jaws rigidly locked, pulse 72, respiration laborious, severe convulsive twitchings of the muscles of the head and neck, frequently lying down and getting up; when up, perambulating the stable for a few seconds, and then again lying down. The blacksmith had abstracted six pounds of blood. I immediately administered aloes Barb. ʒvj, aqua bull. ʒvj, ol. lini ʒviij, with a small necked bottle. A mustard cataplasm was applied to the head and whole length of the spine; a double blanket was secured upon him, and repeated enemata given. A considerable quantity of unmasticated oats passed off with the first enema.

1 o'clock.—The convulsive motion of the muscles abated. Patches of profuse perspiration broke out on several parts of the body. The pony takes longer intervals of rest, and sighs and groans most piteously. The respiration is quicker. Give gum. opii ʒj, gum. asafœtid. ʒij, aqua bull. ʒvj, camph. spt. ʒiv.

5 o'clock.—Jaws much relaxed. There was a loud beating in the region of the diaphragm, which could be heard at the distance of ten yards, and not synchronous with the pulse. This led me to suppose that it was a spasmodic action of that muscle, accompanied with a distressing cough and profuse perspiration. I ordered the following draught, gum. opii, pulv. digit. āā ʒj, antim. tart. ʒiss, aqua bull. ʒviij.

9 P.M.—Pulse at the submaxillary and radial arteries imperceptible; at the heart, fifty: the spasmodic action of the diaphragm nearly subsided; extremities at their natural temperature; partakes freely of gruel; has no inclination for lying down.

20th, A.M.—Symptoms greatly improved. No evacuation of fæces since the previous morning. Give aloes Barb. ʒiij, aqua bull. ʒviij, ol. lini ʒvj, enemas repeated.

7 P.M.—Has had one motion, accompanied with a most foetid smell; takes a little mash, and drinks freely of gruel.

21st.—Convalescent.

HYDROCELE IN A FOAL.

By Mr. YOUNG, V.S., Muirhead of Garnkirk.

ON the 25th of June, 1834, I was consulted respecting the following case.

On the 9th of the same month, about eight hours after birth, a foal and its mother were driven from an old house to a new farmstead which was erecting. A quantity of old timber was lying about near the door. The foal fell upon a portion of the timber, which came in contact with the scrotum and groin, and a considerable enlargement of the scrotum gradually followed.

A neighbouring quack and farrier was desired to examine the case. He was of opinion that the enlargement was produced by rupture, and thought it advisable to cut down upon it and put it up. The owner being sceptical about this mode of explanation and treatment, as the foal had sucked and dunged since the first attack, I was called in to examine the case; and, on seeing it, I was not a little surprised. There was much enlargement of the scrotum; the left side had the appearance of the testicle of a three-years old colt, except that, when handled, it was soft and heavy, and extended anteriorly past the umbilicus. The sheath was pushed on one side, and, when the patient walked, the enlargement had a vibratory and shaking motion. I gave it as my opinion that the swelling was filled with some fluid, and that there was no hernia. I then took a lancet, and made a large puncture in the pendulous portion of the left side of the scrotum, where the incision is made in castration: a green-coloured fluid made its escape, to the quantity of about three quarts. I put into the puncture a pledget of tow, and ordered the same to be renewed daily, in order to keep the orifice open; the scrotum was rubbed with ol. tereb., ol. Europ., and aqua ammon., equal parts, every second day. The swelling decreased daily, and the surface of the scrotum became more and more wrinkled. On the 15th of August there was no vestige of the disease, and the foal continues healthy.

VETERINARY SCHOOL AT LYONS;

EXTRACT FROM THE REPORT OF THE PROCEEDINGS DURING THE
SCHOLASTIC YEAR 1833-4.

By M. GROGNIER, Director of the School.

CLINICAL CHAIR.

WE have much satisfaction in announcing that the practice of our hospital has increased during the last year. The number of animals admitted into the infirmary from the first of August in

the last year to the end of July in the present year, is 950, viz. 430 horses, 36 asses and mules, 1 cow, 464 dogs and cats, 5 goats, and some other animals less common, as an ape, a coote, a wolf, a squirrel, &c. Less than a sixteenth of the monodactyles died under treatment. The mortality among the dogs was greater.

The animals that have been brought to the infirmary for consultation, or operation, as the case might require, and also those that were treated by the students at the residence of the owners, amounted to 1550, making a sum total of 2500.

A few of the observations worthy of record may be classed under the following heads.

DISEASES OF THE RESPIRATORY ORGANS.—Although the number of animals that have come under treatment appears to be considerable, no epizootic diseases have shewn themselves during the last year. The temperature was mild during the winter and the spring; and these seasons succeeded to each other without any considerable atmospheric changes. The cold rains which have been the frequent causes of these maladies, have, to a very inconsiderable extent, exerted their fatal influence. We have seen, however, that the variations of temperature which have necessarily attended the change from one season to another, have produced several acute, although simple laryngeal and pharyngeal affections, which easily admitted of cure; and some instances of bronchitis, pneumonia, and pleurisy, which have proved fatal, when the resources of our art were not early sought. Having been taken in time, these maladies also have generally terminated favourably. The cases of pleurisy have furnished us with an opportunity of observing the too active effects of a blister on the chest, even although bleeding, carried to a considerable extent, had been employed to prevent the intense reaction which it often excites. We have been more fortunate in the use of cataplasms of linseed-meal, on which mustard is sprinkled, and scarifications being afterwards applied to the cellular engorgement which usually follows. We have sometimes pushed on this cutaneous revulsive inflammation even to vesication.

GLANDERS AND FARCY.—The knowledge that we think we have acquired of the occasional causes of glanders and farcy enables us to explain why these diseases have been so rare during the winter and spring; and also why the treatment of the last of these affections has generally been successful. In fact, the influence of a mild temperature and dry air seems to be almost as efficacious as any of the remedies to which we are accustomed to have recourse.

With regard to farcy, M. Legros, a veterinary surgeon at Autun,

has made us acquainted with an ointment, which we have used on many horses, when the farcy cords have been well developed, and before the suppurative softening has taken place. The application of it produces a very thick eschar, at the fall of which the tumour has disappeared.

RHEUMATISM.—We observed many cases of rheumatic affection of the loins among dogs during the last spring; they were usually produced either by plunging the animals into water, or by suffering them to sleep at night in cold damp places. Some of these affections, which had proceeded to almost complete palsy of the hind limbs, have given way to embrocations with camphorated oil, and opium, or oil of morphia, or spirituous frictions; the loins being well covered.

CASTRATION.—No accident has occurred to any of the horses operated on with the clams. (The reporter does not mention whether the operation was performed in the covered or uncovered way.)

COLIC.—The dearness and scarcity of horse provender compelled the owners to consume all the provision for winter, and while it was both new and of a bad quality. It was then necessary to have recourse to vegetables, green or dry, and before they were fit to be eaten. The consequence of this was indigestion, accompanied by enteritis, swelling of the belly, and colic more or less violent. We have been so fortunate as to lose only one horse out of twenty-two thus affected. We employed, in the treatment of them, dilute infusions of mallows and linseed, rendered slightly stimulant and antispasmodic by the addition of flowers of the linden-tree; emollient injections were also administered. When the spasm and swelling were considerable, we fomented with emollient liquids, at a temperature of 110 or 120 degrees of Fahrenheit, and which we applied by means of wool or flannel surrounding the belly and the loins. We bled from one or both of the external thoracic veins, when the pulse was hard and frequent; and we did not neglect dry frictions, fumigations, and exercise.

RABIES.—Notwithstanding the warmth and dryness which prevailed during the close of the spring and commencement of summer, we have not had any unusual number of rabid dogs in our infirmary. There were only twenty-two.

VERTIGO.—Of twenty horses attacked by this disease eight only were cured. In the last year we succeeded in saving eight out of sixteen, or one-half; but this year the deep yellow tint of jaundice was evident on the greater part of these patients, and their urine, from the very beginning, was of a yellow-brown colour, and thick, oily, and fetid. After having allayed the cerebral irritation, and reduced the nervous irritability, by a revulsive

bleeding from the coccygean vessels, the administration of ptisans of marshmallow and valerian, and the employment of cutaneous revulsive irritants, and of injections, a smell resembling that from mice was evident in the perspiration, and debility rapidly ensued, to combat which we had immediate recourse to acidulated and bitter drinks. The horse usually died on the day following the appearance of these symptoms. In one patient, a seton became gangrenous in the space of twelve hours.

DARTRES.—Cutaneous eruptions under the form of scaly patches on the head, and about other parts of the body, have appeared on many stage-horses. They have yielded to a general bleeding, cooling medicine, and the application of common sulphur ointment. When the eruptions have been obstinate, we have added a few drops of the oil of Cade to the ointment.

GASTRO-ENTERITIS.—Irritations of the stomach and intestines, with little or no cerebral affection, accompany jaundice in the horse; and obstinate constipation, and, sometimes, slight dysentery, in the dog. We lost two horses from this affection, and which speedily took on it the character of debility, although we had been careful to effect only small repeated bleedings, and to administer frequent emulcent drinks, slightly acidulated with vinegar. Warm emollient baths used on many successive days, frequent injections, laxatives, and strict attention to diet, have been opposed with much success to intestinal irritation, and to constipation in dogs.

AMPUTATION.—For some years the species of dog, called the Bull-dog, has multiplied in Paris. These dogs, which are trained to fight with the bear and the bull—a barbarous amusement and foreign to French habits*—are often brought to us to be treated for lacerations of the integument and the muscles; or with fractures resulting from blows with the feet of the bull; or with dreadful contusions which sometimes render amputation necessary. The taste for this sort of combat has risen to such a height, that these dogs have been loosened at the bull even after the amputation of one of their legs. After operating on these animals, it is impossible to keep the stump covered more than five or six days, when suppuration has been well established. The animal is continually endeavouring to get at it, and he tears the bandages from it every instant, whatever attempts we may make to prevent him. We then take every thing away, the dog licks it as he pleases, and the cure does not seem to be retarded by this; perhaps we may say that it is hastened.

* And, with the exception of some thoughtless young men, and more blackguards, foreign also to the feelings and habits of Englishmen.

In that degeneracy of the tissue of the frog of the horse, called *crapaud*, we have tried the mode of local treatment so highly spoken of by some veterinarians, and which consists in cauterizing the part by means of inflamed gunpowder. This method, like a great many others, has not yet been attended with much success; but we will continue it until the observation of a great number of cases will permit us to draw some well-founded conclusion. In the meantime, we would warn practitioners that gunpowder alone will produce only a simple black film, or stain, on the tissues, without any proper eschar; and that it will be necessary to mix together one part of sulphur with two of nitre, in order to obtain a scab of sufficient thickness.

GREASE.—M. Schoale, veterinary surgeon at Fontaine on the Rhone, having requested us to use the caustic powder of Dr. Dubois, and which he had applied with much success, in order to arrest the discharge of grease, and to destroy the cutaneous morbid growths known by the name of Grapes, we have done so on two horses, and have completely succeeded. We will try it again as occasion may present itself, and we will record the result.

Glanders not hereditary.—A colt three years old, from a mare that had both farcy and glanders, and by a horse that was blind, continues in good health, although it has always been among glandered horses. The eyes also continue to be free from disease.

M. Grogner terminated his discourse with some advice to the pupils, warning them of the rocks which they should carefully avoid when they left the school, and laying down some excellent rules by which their future conduct and practice should be guided.

Recueil, Oct. 1834.

ANNUAL REPORT OF THE VETERINARY SCHOOL IN NASSAU STREET, FOR 1834.

THE number of horses that came under treatment during the last year was 379; and of other domesticated animals, 1373; total 1752: being a decrease of 47 horse-cases, and an increase of 213 among the other ordinary patients of the veterinary surgeon. Among the *feræ naturæ*, whose diseases have often afforded instructive lessons to the pupils, 222 are recorded; being 78 more than in the last year, and affording a gross number of 1974 cases. Notwithstanding this, the year has been an unusually healthy one, at least so far as serious complaints and the loss of patients are concerned.

In 1833, 49 cases of Influenza occurred; in 1834, only 17. In 1833, there were 8 deaths from this complaint; in 1834, only

3: and, in both years, the advantage of gentle aperient medicine, and the danger of pushing it but a very little too far, were sufficiently evident.

Of Carditis, of which, in 1832, 8 cases occurred, there was only 1 in 1833, and 1 in 1834.

Of true Flatulent Colic, so rife in the north of the kingdom, not a single case occurred in either 1833 or 1834. Of serious Spasmodic Colic, the 15 cases of 1833 actually dwindled down to 4 in 1834; and all of them yielded to bleeding where fever was indicated, walking exercise, and the spirits of turpentine and opium.

Three bad cases of Farcy in the last year, and 1 in the present, yielded to the application of the budding-iron, occasional application of the corrosive sublimate wash, and the internal administration of the sulphate of iron, with gentian and ginger—not in the form of our friend Turner's *green solution*—very useful, doubtless, in many a case; but administered in the old-fashioned way, as a ball.

Of Simple Fever, and in such a form that it could not admit of a moment's doubt or question, 6 cases occurred in the last year, and 7 in the preceding; and they all were subdued by prompt yet moderate bleeding until the pulse *just* began to be affected, small doses of laxative medicine, digitalis, and nitre.

The cases of Fistulous Withers that occurred afforded additional proof, if it were wanting, that nothing more is necessary for the cure than a seton through the lowest sinus, and a solution of the chloride of lime, varying in strength according to the appearance or fœtor of the wound, and although gradually yielding to the compound tincture of aloes, yet, perhaps, occasionally resorted to again and again.

Of 6 cases of Glanders, 5 took their usual course, and the patients died. The other was a case of acute glanders, serious, and threatening to be fatal. A medicine (the composition of which I know not, but which was sent to me by a veterinary surgeon in the west-country, with the promise that, if it proved to be effectual, the whole history and nature of it should be divulged for the good of the profession) was administered; and under the influence of which the horse rapidly improved, and is now perfectly sound and well. A portion of it was sent to Professor Coleman, who promised that it should receive a fair trial. It was entrusted to a person at the College, who expressed great unwillingness to use it, until he was properly silenced by the positive command of his superior. It was not used, after all, at the College, where the observation of its effect would have been interesting, but on an out-patient (*are they still allowed?*), and

is said to have failed. I think I can promise a supply of it to any gentleman who is disposed to experiment with it; for although the gentleman from whom I had received it thought that he had sufficiently enwrapped himself in mystery, I know him well enough. I will only say of it, that I have tried it *once* on a fair, or rather a bad case, and that it succeeded. I can guess at the ingredients; but my *friend* (for as such I regard him) must, at some time or other, tell his own tale.

Of Laryngitis two cases occurred, but neither of them accompanied by the scarlatina described by my friends Percivall and Chapman. In the preceding year, however, I had a case of it. The papers of these gentlemen are exceedingly interesting.

Of Mange, and some Cutaneous Eruptions almost identical with it, 18 cases are recorded; and troublesome enough some of them have been. That which seemed to have most effect, and which in several instances effected a cure, hitherto permanent, was a lotion composed of equal parts of a decoction of tobacco and spirit of tar, together with the persevering use of the common alteratives, levigated antimony, nitre, and sulphur, with occasional mild purgatives. We much want a plain and practical classification of these skin diseases. Mr. Percivall, in the first volume of his Hippopathology, has rendered us much service here. Another touch of his wand will dispel the whole of that obscurity which confounds and misleads us.

Beside the cases of ordinary skin disease, there were two in which, with no scabby eruption and very little redness, there was a degree of itching, in one case confined to the flank, in another spreading almost over the frame, which nearly drove the horses mad. Shall we add pruitus to our list of cutaneous affections? It yielded to bleeding, physic, and the frequent application of nitrated water.

Pure pneumonia has been particularly rare, and of pleurisy the cases have been few. Is it that the disease is gradually disappearing, as a more rational treatment of the horse is adopted, or that our nosology beginning to be a little more worthy of our art, so many diseases plainly, and most advantageously for us as practical men, arrange themselves under the denominations of catarrh in all its shades of mildness or severity, bronchitis, carditis, coryza, cynanche, enteritis, fever, hepatitis, influenza, laryngitis, pleurisy, tracheitis, and various others, that there are few left for pneumonia, and they of very doubtful character? Whatever may be the cause, there were but two patients in which the characteristic symptoms of this once-supposed prevalent malady could be clearly traced.

From what cause I am unable satisfactorily to explain, whe-

ther from the continued dryness or hardness of the roads, or any atmospherical influence producing local and partial debility, or the owner being tempted by the unusual and long-continued fineness of the weather to ride a little too far and too fast, or whether the whole is to be traced to the singular and inexplicable irregularity which sometimes attends not only medical practice, but everything else, the number of cases of sprain, or lesions of the tendons of the extremities, or their sheaths, has, this year, more than doubled the average of many preceding years, and some of them have been of a very serious character. The suspensory ligaments have suffered to an extraordinary degree, and yet the general tendency to enlargement about the legs, and indeed to œdematous swellings generally, has rarely, in the course of my practice, been so little.

Among dogs, disease has taken on a somewhat different character. The cases of illness have been considerably more numerous than usual, but they have comparatively rarely been severe. Cutaneous affections have been prevalent to an extent altogether unprecedented. In 1833, there were 150 cases of it; and in the last year, no fewer than 249. Their prevalence seemed to be clearly connected with the temperature of the atmosphere. In April there were only 7 cases, in May 13, in June 19, in July 30, in August 42, in September 32, in October 23, in November 23, and in December only 16. The predisposition to it, and the actual appearance of it, began to increase as summer came on: the disease was established as a kind of epidemic in August, and began regularly to subside as autumn and winter approached. The disease had likewise assumed a character almost unknown, not many years ago. The common scabby mange, which could be easily grappled with, and generally subdued, was little seen—even the usual red mange, with the fox-coloured stain, was not of more frequent occurrence than usual; but an intolerable itching, with comparatively little redness of skin—rarely with sufficient to account for the torture which the animal seemed to endure, and, often, with not the slightest discoloration of the integument, was brought under our notice almost every day, and under its influence the dog became ill-tempered, dispirited, emaciated, and occasionally fairly sunk. All unguents were thrown away here. Lotions of corrosive sublimate, or decoction or infusion of digitalis, or tobacco, alone did good, with the persevering use of alteratives and purgatives, and the abstraction of blood.

Acute mange of another form—the sudden appearance of redness of skin, and exudation from it, and actual sores, with the falling off of the hair, and itching that seemed to be intoler-

able—has also been prevalent to an unprecedented extent; but it has been as manageable as usual. A dose or two of physic, the application of the calamine ointment, and, in a few cases, one bleeding, have caused it to disappear almost as suddenly as it came.

Distemper has also been very prevalent: 1833 afforded 148 cases of it; in the last year 254 cases occurred. The character of the disease has, however, been mild, almost without parallel. With diarrhœa and dysentery, amounting only to 36 cases—and with somewhat less than the usual proportion of nervous affections, degenerating into epilepsy, the malady was not difficult to treat; and, consequently, although the actual number of patients exceeded those of the preceding year in the proportion of five to three, the deaths were not so numerous by fifteen. This year also its dependence on ærial agency was plain enough. It is usually a disease of the spring and autumn: thus in February there were only 8 cases, in March 24, April 25, May 38, in June 21, and in July only 7, in August 26, September 28, October 33, and in November and December very few.

Rabies, on the contrary, has shewn its absolute independence on atmospheric agency, at least that agency which has been supposed to have so much power over it,—temperature. Only fourteen cases of it occurred in the last year:—in February 1, April 1, June 2, July 1, August 2, September 1, October 1, November 1, and December 4.

Sixteen cases of enlargement of the thyroid glands have occurred—fourteen of which yielded to iodine, in doses of from a quarter to a third of a grain, morning and night, and continued during three or four weeks.

The worm patients have multiplied—there have been 54. In nearly all of them the little mischief done by worms, unless their presence has been associated with other and more serious complaints, has been sufficiently evident, and also the efficacy of the mechanical mode of treatment in order to their expulsion.

Rheumatism, and leading to partial loss of power over the hinder extremities, has been of frequent occurrence, and generally obstinate. Warm baths and emollient aperients have been most successful in the treatment of it. No fewer than 22 cases of paralysis of the hinder limbs have occurred; the majority have yielded to these means, or to the continued but mild stimulus of a pitch plaister, or a charge.

Of Asthma, 58 cases have occurred: and what would puzzle the human pathologist, they are of most frequent occurrence in the latter part of the spring, and as the summer advances,

and comparatively disappear in the winter. Emetics are our most successful weapons here.

In some few cases of cattle, and among some undomesticated animals, we had most interesting and important illustrations of the nature of phthisis and the power of iodine over it. These well deserve a separate notice.

The communication from Edinburgh is necessarily postponed until the next number. How happy should we be to give insertion to the transactions of another school, and which could not fail of being instructive and valuable!

Y.

ABSCCESS IN THE SUBLUMBAR REGION IN A MARE; PASSAGE OF PUS INTO THE VERTEBRAL CANAL.

By M. DECOSTE.

A MARE, eight years old, and that had been exceedingly irritable, and accustomed to kick, sometimes ceased her violence all at once, and in her manner of going seemed to express considerable pain in the lumbar region. On the 2d of November, 1826, she received a violent blow on that part, and a phlegmonous tumour followed as large as an egg. The populeum ointment was applied*.

4th.—Fluctuation was perceptible; an incision was made into the tumour, and a small quantity of coagulated blood escaped. I should, perhaps, have said, that for some days before this accident, she did not appear to have full power over her hind limbs; the action was less free and assured, and a slight pressure on the loins gave very great pain, which she expressed by her groans.

5th.—She lay on her left side, and made violent and useless efforts to raise herself; and it was only by means of a bar, and the assistance of several persons, that we were able to get her up for a moment, and then her weight was supported by her fore feet, while her hind limbs were flexed and motionless. We again

* This is a favourite emollient and soothing ointment with the French practitioners. It is very curiously prepared. Take of dried buds of the black poplar, two parts: fresh leaves of poppy, belladonna, black (common) henbane, black (common) nightshade, of each one part, and of prepared lard twelve parts. The leaves are cut and bruised, and boiled in the lard, care being taken that they do not burn; the poplar buds bruised are then added, and left to infuse in the hot grease for two or three hours, and the whole then pressed through a cloth or fine sieve. It is used to supple the skin, to hasten the separation of eschars, to heal chaps and cracks, and to calm pain and ease irritation in muscular and fibrous parts.

Y.

laid her down on plenty of good litter. Her efforts, with her fore legs, to raise herself were incessant, but her hind ones remained in any posture in which we chose to place them. She was covered with perspiration, particularly about the base of the ears, the shoulders and the flanks; the respiration accelerated; the nostrils dilated, and the membrane of the nose of an intense red; the pulse full and hard; the temperature of the hind limbs cold, compared with that of the fore ones. The tumour of yesterday now presented nothing but a little opening without enlargement.

Two setons, dipped in a stimulating fluid, were introduced into the thighs: the animal expressed a great deal of pain during the operation. This sensibility appeared to me extraordinary. I pricked the paralyzed limbs in various places, and as low as the coronet, and everywhere the sensibility was excessive. Ten pounds of blood were taken from the jugular; stimulating frictions were applied over the loins, and anodyne drinks and mucilaginous injections were resorted to.

6th.—In the same state. The sensibility as great as on the former evening. The appetite good; frequent moanings; continual agitation of the fore limbs; the heat of the whole of the body diminished; general perspiration, and also general debility. Six drachms of nux vomica were administered.

8th.—The pulse very feeble; cold sweats; the paralyzed limbs as acutely sensible as before. Eight drachms of the nux vomica, after which there was slight agitation of the limbs; the pulse was more developed, and there appeared to be intense inflammation of the conjunctival membranes.

9th, A.M.—The body covered with cold sweat; respiration difficult; pulse not to be felt; the sensibility of the hind limbs still retained. She died at five o'clock in the afternoon.

Post-mortem Examination.—The floating portion of the colon and some portions of the small intestines were slightly inflamed.

The right pleural membrane was injected—black. The lung on the same side was black and gorged with blood; the animal had lain on that side during the whole of her illness. The tissue of the lungs was easily torn. The right cavities of the heart were red; the tissue of that organ was pale and flaccid.

The lesions in the neighbourhood of the tumour that has been spoken of, were confined to the sub-cutaneous tissue: but in raising the left clio-spinal muscle (the longissimus dorsi) towards the last dorsal vertebra and the first lumbar, we found under it a collection of purulent matter, which penetrated into the spinal cavity by means of the canals for the passage of the nerves. The pus which it contained was generally black, with green points or specks, and had a carious smell. Many of the vertebræ had

points of their surface carious. The pus which had entered the spinal cavity had not penetrated through the spinal membranes.

We exposed a part of the spinal chord, corresponding with the points occupied by the puriform matter. The superior columns were softened to the extent of three or four inches, and towards the hole through which the pus had penetrated into the spinal canal: this portion of the spinal chord was more fluid, and of a yellow colour. The inferior columns had the same hue, but more consistence. The cellular tissue surrounding the chord was highly injected.

This case appears to me valuable on account of the evident cause of the paralysis, the effusion of pus into the spinal canal, a fact which I believe stands alone in the records of veterinary medicine. The increased sensibility is also well accounted for by the state in which the superior columns were found.

Recueil.

PATHOLOGICAL FACTS, AND OBSERVATIONS ON DIARRHŒA IN CATTLE.

By Mr. SAMUEL BROWNE, V.S., Melton Mowbray.

As the diseases of neat cattle were not taught at the institution from which we derived our professional instruction during my pupilage, it may appear presumptuous in me to address you on that subject; because the practical knowledge which I possess is not based upon any professor's lectures on this branch of our art. But I am fully sensible of the utility of your Journal, and my object in writing is to fill a void space in its pages—not presuming to instruct, but hoping to amuse.

Diarrhœa is met with in every variety of breed; and although young cattle are the most subject to its attack, it occurs in both sexes long after the adult period. Diarrhœa is said to be a chronic inflammation of the mucous coat of the bowels; and post-mortem examinations and some painful reflections have convinced me that these traces of disease in the mucous membrane are often either the effects of an imperfect digestion, or a morbid biliary secretion. In winter store cattle generally live on straw, or ill-got mouldy hay. This kind of food may absorb a smaller quantity of water, or injure the internal surface of the stomachs so much as to check the natural secretions. The peculiar structure and, perhaps, functions of the manyplus may render it highly favourable to the accumulation of cakes of indigestible food between its plaits, and which become indurated to such a

degree as to impair the functions of the organ. Hence the food passes into the abomasum in too crude a state for its powers of assimilation, and the consequence probably is, that it acts as a constant source of irritation on the intestinal canal.

Although I have said that the exciting causes of diarrhœa may be either an obstruction of the third stomach, or a morbid action of the liver; yet, in a majority of cases, there is such a similarity of symptoms, that I am unable to distinguish the one from the other. If the history of the case is such, however, as will lead us to suspect the third stomach, of course the first indication of treatment is to evacuate its contents. We might naturally suppose that this object would be easily attained by cathartics; but I must confess that I am rather sceptical as to their solvent powers upon cakes of food which are perfectly dry, and apparently pressed until their texture is almost incredibly firm. I usually commence the treatment with the administration of a saponaceous oily mixture; not supposing that it is the greatest solvent, but under the impression that this bland fluid may lubricate the foliaceous parts of the stomach, and operate in some measure mechanically: and I have frequently observed pieces of hardened half-digested food pass with the liquid fæces after its administration.

In order that the stomach may be less called into action, the regimen consists of a very small quantity of hay, with plenty of gruel, made either of wheat, or bean flower, or linseed; and sometimes with mutton suet boiled in skim milk, and thickened with wheat flour or starch.

If this treatment should not restrain the purging, some anodyne astringent medicines with aromatics and absorbents are given; and, as a last resource, the animal is compelled to drink lime-water, which has occasionally succeeded.

This treatment has restored health to some of my patients when the cases were apparently hopeless; and I believe that I may conscientiously say that they have become as useful, both as regards their milk or flesh, as they would have been had they not been attacked with disease. In those cases in which the liver does not properly perform its functions, I have frequently given alterative doses of calomel combined with opium and aromatics; and the compound powders of either kino or cinnamon, cascarilla and cinchona, arrest the alvine discharge, and restore the animal to a state of considerable usefulness, as regards its preparation for the butcher, and in several cases a cure has been effected.

I have met with cases of diarrhœa in which the attack was sudden and violent, and from the expression of abdominal pain

I conceive that they were primarily an affection of the mucous coat of the bowels. This variety of the disease is characterized by the animal striking its belly, frequently lying down, and shifting from side to side. The pulse is quick, the nose dry, and the eyes shrunk in their orbits; rumination and the secretion of milk are suspended; depression of strength supervenes, and the beast becomes unable to rise. The alvine excretions are voided in large quantities; they are fetid, of a dark colour, and extremely fluid.

In these cases I have succeeded with calomel and opium, aromatics, &c.; copious draughts of starch or arrow-root, with clysters of starch and powdered opium.

In some of those patients that died of diarrhœa, and which I have dissected, the manyplus was distended with cakes of indurated food, which adhered so firmly to the leaves of the stomach that it was impracticable to empty it without tearing them. The membranous coat of the abomasum and intestinal canal presented an irritated surface, slightly injected and partially thickened. In one subject the liver was enlarged, and the gall-bladder contained a small quantity of black viscid bile. But in others the livers were small, of a dark colour, and firm texture. The gall-bladders were enlarged, and the bile exhibited different morbid changes, being thin, and of a pale colour, or turbid, resembling a mixture of turmeric and water; and one of them, which was filled with turbid bile and concretion, weighed twelve pounds. The mucous coat of the bowels was injected, but there was more uniformity in their appearance.

HYPERTROPHY OF THE HEART.

By M. HUVELLIER.

ON the 29th of August 1831, I was requested to open a cow, five years old, in moderate condition, and that had died during the period of warranty. As she was led from the fair, she was seized with frequent cough, and with so much difficulty of breathing that she was obliged, every now and then, to stand still. She lived three days, eating very little; she was then seized with another fit of coughing, and fell, and died in a moment.

Both lobes of the lungs were sound. The heart, of an enormous size, was surrounded by membranes thick and hard, and which seemed to be folds of the pericardium, and from which they could scarcely be distinguished. In cutting into them in order to arrive at the heart, nothing could be perceived but a gross, irregular, thickened mass, very soft, offering to the touch, where it was

most enlarged, several hardened masses of the size of an egg, and which appeared to bound the part which was nearest to the lungs.

The coronary scissure of the heart was not to be found; it was covered with soft, fleshy folds, seemingly belonging to the heart. On removing them the auricles could be recognized, very much dilated, irregularly studded with tumours, and resembling the liver in their colour. Some of these tumours were hard, and creaked under the edge of the bistoury; others, within walls of considerable thickness, contained a quantity of pus, in some of a yellow and in others of a dark green colour. The interior of these cysts resembled that of pulmonary vomicae.

The whole of the right auricle was prodigiously enlarged. It was surrounded by many of these tumours, but there was one, larger than any of the rest, the walls of which were very thin, and had been lacerated apparently from within; although nearly empty, it still contained a small quantity of pus and blood. The remaining part of the blood and pus that had been contained in this pouch was found in the right ventricle. The violent fit of coughing had, without doubt, ruptured the tumour; it had poured its contents into the auricle, whence they had descended into the ventricle, and caused immediate suffocation.

The other auricle, similarly dilated, presented at its base similar clusters of tumours, but they were not so soft. The ventricles, arteries, and pulmonary veins, were gorged with excessively black blood. In many parts that portion of the pleura that formed the pericardium appeared to be cartilaginous, and creaked under the knife, as a scirrhus tumour would do.

The parietes of the right ventricle towards the apex of the heart, were enlarged, and soft, and thin as a piece of paper, and seemed as if they would have burst at the application of the slightest strain.

I have no knowledge of the cause of such strange disorder of this organ: I can scarcely think that it would be the result of any external violence. I am rather inclined to believe that I have here seen the true cancer of the heart.

Although our *usages* only admit as unsoundness chronic affection of the lungs, yet I could not hesitate in concluding that there was fully sufficient here to set aside the sale, and the Tribunal did not object to this.

Récueil, Jan. 1834.

STRANGULATION OF THE RECTUM, AND INFLAMMATION OF THE COLON AND CÆCUM.

By Mr. W. A. CARTWRIGHT, Whitchurch.

ON Tuesday, 23d Sept. 1834, Mr. Cookson, jun. of the Woodhouses, had been riding a grey gelding of his six years old, and returned with him home about ten at night, when he was cleaned and made perfectly dry. In about half an hour afterwards a bucket-full of water was given to him, and he was then left for the night. The next morning, about five o'clock, he was discovered by the waggoner to have the gripes. A drink composed of ol. juniper and oil of turpentine was given by the owner, and the horse was walked about a good deal. He did not sweat, but rolled over very often, and the pulse was very little quickened than natural.

24th, 8 A.M.—No better. Three quarts of blood were taken from him, and he was clystered. 12 M.—No change. One pint and a half of linseed oil and two ounces tinct. opii were given; the clysters were repeated, and the animal was walked about. 6 P.M.—The same. Three quarts more blood were abstracted, but which, like the former bleeding, did not seem to give him any relief; he continued rolling about, and over and over, and getting up and lying down most of the night. No dung had come from him since the commencement of the attack, but his bowels were rumbling all the night as if they were about to discharge their contents. He was not swelled.

25th, 2 P.M.—I first saw him. He was then lying on his near side, all at full length, and breathing quickly—his pulse was 73. Eyes inflamed; legs and ears, and up his nostrils, intensely cold—he rolled over on his back, and was often looking towards his side. I had no hope of his recovering, and consequently did not carry the bleeding to the extent I generally do: he had been ill too long, and the general symptoms made me despair. I however gave aloes Cape $\mathfrak{z}\text{ij}$, antim. tart. $\mathfrak{z}\text{iss}$, and opium $\mathfrak{z}\text{ss}$, in a drink; and made an infusion of $\mathfrak{z}\text{ij}$ lyttæ, and rubbed it on the abdomen, but which produced no effect. 4 P.M.—Gave aloes $\mathfrak{z}\text{iss}$, antim. $\mathfrak{z}\text{iss}$, and opium $\mathfrak{z}\text{ss}$, in some water, and took about two quarts of blood from him; but I had great difficulty in obtaining even that quantity. 7 P.M.—No better: the opium evidently produced a desire for sleep, and calmed the system generally; the pulse also decreased in rapidity, and the respiration became nearly natural, but its effects subsided in the course of half an hour, and he became then as bad as ever. I left two doses of medicine, composed of aloes and antimony, to be

given in the night, and also a strong liquid blister to be rubbed on the abdomen, not expecting to find him alive in the morning.

26th, 7 A.M.—Worse. Nothing has yet been voided from the bowels, but he has urined twice—has been restless and agitated during the whole of the night; the pulse cannot be felt at the jaw, and is not more than about 50 at the heart. The breathing is stertorous, and the belly now swelled. In a quarter of an hour after I now saw him; he got up, staggered about, tumbled against the stall, fell down, lay awhile, struggled, and died in great agony. During the whole time he never sweated in the least.

Post-mortem Examination.—The colon and cæcum were highly inflamed, their muscular coats congested, and the others highly tinged. These intestines were filled with fæces, and the smaller ones had also contained some, but in all of them it was quite soft, and, in a manner, in a liquid state. Two feet of the rectum, about two yards from the anus, were twisted and strangulated, and filled with hard dry fæces, but it was not to any great degree diseased or inflamed. There was not any dung in the rectum posteriorly to the strangulated portion. This, no doubt, would have been a good case to have used the patent syringe, if I had then had one.

ABSCESS ON THE SPINAL MARROW.

By the same.

A CHAISE-HORSE has had a puffy tumour, the size of an egg, for the last two or three years, just over between the first and second bones of the lumbar vertebræ, and rather on one side, but which appears not to have caused lameness or perceptible pain: it was not sore, nor considered by her farrier to contain matter; but, one day in the month of June last, 1834, the horse was fetched up out of a field adjoining the house where he had been feeding, and seemed in perfect health, when on coming quietly up to the yard he made a bit of a stumble, fell down, and instantly expired. The owner wished me to examine him, in order to find out the cause of his sudden death.

Examination on the following morning.—On laying open the abovementioned tumour, it was found to contain about 3ij of matter, of a creamy consistence and colour: this was contained in a sort of cyst, from which there was a small opening that a probe could just be introduced into, and which continued for about half an inch, where it opened into another abscess close upon the spinal chord, and which seemed to have burst and discharged

its contents into the vertebral canal. The spinal marrow was evidently thinner just under the place where the abscess had been pressing.

[Indisposition—sudden in its attack—renders the preparation of a Leader impossible: our readers will kindly excuse it. In the mean time the following Scotch cause, although somewhat lengthy, may be acceptable. It still farther explains the method of proceeding in the northern courts, and places the reader in the situation of juryman in the cause.—ED.]

Veterinary Medical Jurisprudence.

SCOTCH COURT.—SUPPOSED RUPTURE OF THE EXTENSOR
TENDON OF THE HIND LEG.

DRUMMONDS *v.* LESLIE.

Pursuer's Proof.

James Plumpton, horse dealer and flesher in Brechin, deposed that he attended the fair in Keith, in 1827, and looked at a black mare belonging to the defender; that she appeared lame on the near fore foot and off hind leg; but does not recollect whether he mentioned it or not to him: was asked by Drummonds, who afterwards purchased the mare, to go and see her, when he remarked how he had come so far to buy a crippled beast; and, at the same time, a Mr. Elder, who is since dead, came forward and asked whether witness or the pursuer had bought the crippled beast; he did not examine to see what was the matter, but that she was lame. Pursuer said nothing when told that she was lame. Understood that £25 was paid for her, which was a fair price.

John MacGregor recollects of a black mare being brought, in Sept. 1827, to the stables of his father; she was put into a stall by herself all night. Witness does not think she sustained any injury: there was a pony in another stall. Witness observed no lameness when he took the mare into the stable, and saw that she was lame next morning; he only saw her walk into the stable at night: next morning she was put into another stable, where she was kept for several months, and attended by him. He rode her twice a-day to water; she was always lame when taken out, but got better with exercise, and continued in this state until she was sold by public roup. She was tied in the

stable the first night with a rope and stall collar. The pony was in the next stall; but there were no other horses in the stable: the pony was fastened in his stall.

Alexander MacGregor corroborated the former witness's statement. The lameness was in the near hind leg: observed the swelling between the knee and the hoof, nearer the latter than the former. She was lame all the time she was in his stable, under the care of his son. She received no injury that he knows of in his possession; the swelling was very considerable next morning after she came into the stable. The swelling must have been of old standing, for he knows of nothing to occasion it between the night and morning. He never felt the swelling. The pony stood on the near side of the mare. The pursuer said nothing about the mare being lame when she came to the stable. Witness has no doubt, that if the mare had been in the same state in the market as she appeared in the morning, the pursuer (a dealer) would not have been deceived with her; but, as the swelling got less after exercise, perhaps a person might have been deceived: the swelling never went entirely away, but was sometimes better and sometimes worse.

Thomas Fawces, cattle dealer, was shewn the mare the morning after the market, and remarked to pursuer that she was very lame. Did not examine the mare minutely; saw no cut, mark, or bruise; and witness therefore thought the lameness was of some standing, and that the mare must have been unsound on the day before he saw her, and never saw the mare before or since.

John Robinson, cattle dealer, Perth, observed the mare to be lame on the off hind leg next day; examined her particularly; observed no broken skin, and therefore thought it was an old lameness.

John McBay, carrier, saw her often while at McGregor's; observed that the lameness got better with exercise.

Alexander Steebles, horse and cattle dealer, saw the mare the day after the market; she was dead lame on the off hind leg, and the whole leg much swollen from the hoof to the knee. Witness supposed, after a careful examination of the mare, that the lameness and swelling were occasioned by an old blemish,—that the mare had been at grass for a considerable time before, and that the fatigue of coming to the market, after having been upon grass, brought down the shot of grease, which shewed the lameness: never saw the mare since.—(Cross-examined). *For the defender.* Witness supposed that the mare had been lame before, and that the lameness had been considerably got the better of by the grass, and had been brought on again by the

fatigue of the journey to the market by McGregor. The distance between the market stand and McGregor's stables is about one hundred yards.

Peter McGregor, blacksmith, saw that the lameness did not arise from the shoe, and recommended for a farrier to be sent for.

James Duff, formerly horse-dealer in Keith, saw her when she was sold by public sale; she was swelled in both hind legs.

Thomas Smith, veterinary surgeon, of Montrose, was requested to visit and inspect a black mare then in the possession of Mr. Duff, and which witness was informed had been purchased at a public roup in Keith; that he went and saw the mare, and found her, in his opinion, to be unsound from a contraction of the coronet on the left fore foot; also from a rupture of the extensory tendons of the off hind leg. Witness was satisfied that both defects had existed for a considerable time; the contraction, in the witness's opinion, being of the longest standing: thinks the contraction existed for twelve months, and the rupture for four months, at the least.—*For the defender.* Witness has a diploma from Mr. Coleman, in London; studied three years with him, and was seven years in Edinburgh with Mr. Gray. Cannot say if the contraction of the foot was natural, or occasioned by accident or disease. Witness thinks the rupture was occasioned by a sprain, and not likely to be occasioned by a blow, though a blow sometimes occasions it; it might have been occasioned by violent exercise, or by a sudden jerk, or from the animal having put its foot into a hole. Saw no appearance of grease about the mare. That swelling of the limb always ensues immediately after a rupture of extensory tendons. Does not think it possible for a horse having a rupture of the extensory tendons to travel a distance of fifteen or twenty miles without a swelling arising in the limb in time sufficient to indicate the existence of the rupture; and by this he means, not a general swelling, which will go off by exercise, but a swelling which will indicate a rupture to a professional man, only cannot say how long a swelling occasioned by rupture will remain if not reduced by practice. Was shewn the mare at Botriphnie, by the grieve or upper servant; had some conversation with him; examined the mare most minutely in his presence; felt her limbs and body, and made the servant walk and trot her, and turn her in a circle. Said to the servant, that there was no doubt the mare was lame. Did not say to him that he had got a real good beast. Does not recollect of having stated any thing to the servant at Botriphnie about a law plea respecting the mare.

John Plowcutt, veterinary surgeon, Inverness, granted a certificate, dated the 12th of October, 1827, which the pursuer now

tenders in evidence; and the defender, rather than defer his proof, consents to the certificate being held as evidence, and of which certificate the tenour follows:—"I have this day examined a black mare, and pronounce her to be unsound, but from what cause I am not able to say. I am of opinion, that she must have been unsound, although she did not shew it, the day on which she was purchased by Mr. Drummonds, which was from three to four weeks ago, having shewn a lameness the following day. (Signed) *John Plowcutt.*"

Defender's Proof.

James Borelay, Hill of Montblainy, purchased said mare about Martinmas, 1825, and exchanged her in three or four weeks after, with John Taylor, farmer, Scotstown, who kept her twelve months, and then sold her at his removing roup to the defender. Saw the mare frequently in Taylor's possession, and also in the defender's, who sometimes rode her. Never saw her exhibit symptoms of lameness or unsoundness in any respect. Taylor has gone to America. Refused £28, and also £28 10s, for the mare, at Tureff and Aldeer markets; and got £29 15s by the exchange.

James Winton, farmer, Whitefield, knows that Taylor sold said mare with his other stock. Has seen her frequently, and never heard of her being lame or sick. Saw her sold to the pursuer at Keith market, in 1827. She was shewn in the usual way, and saw the purchaser looking at her; and in a few minutes saw the parties in a tent. The mare was brought to the door of it, and the bargain concluded; the purchaser led her away; the price was £25. The mare was not lame when he saw her in the market, and it was good daylight when she was sold. There was no swelling on any of the mare's legs when she was sold, that he observed, and he looked at the mare different times minutely in the market; did not see her trotted on the road, but saw her walked, and would have known if she was lame, as well from seeing her walked as seeing her trotted. Was eleven years groom to the late Lord Banff; was with him in the Enniskillen Dragoons on the continent; and witness has had considerable experience among horses, and has seen a great deal of their complaints and diseases in the army abroad, and in cavalry hospitals at home. The mare in question had no contraction of the coronet of any of the feet, nor any rupture of the tendons of any of the legs, so long as he knew her, that ever he saw; and there is no doubt that if she had had a contracted coronet or ruptured tendon, he, the witness, would have seen it.

James Price, farm-servant, Torglen, was in defender's service one year, previous to Whitsunday 1827; yoked the mare in the

harrows first after the defender bought her. She was regularly worked while he was with defender. Never saw or heard of her being lame or unsound.

William Barber, farm-servant with defender, one year previous to Whitsunday 1827, never saw or heard of the mare being lame or unsound. Accompanied the defender nearly two miles when he was taking her and two other mares to Keith market. The mare was perfectly sound, as far as he saw, at that time. Did not see the mare trotted on the road to the market, but had often done so before on all kinds of roads, and never saw her lame or crippled; and she was the same that day as he had seen her before.

Alexander Kinnaird, farrier, Cramer, has been fully employed for the last fourteen years in that way. Considers himself pretty well versant in the diseases of horses. Met the defender about three miles from his house on the road to Keith market, in September 1827, with three mares. Knows the mare in question; looked at her; she was on the outside, in defender's hand; saw no appearance of lameness or unsoundness about her. Did not see her trotted. Would walk, trot, and gallop a horse if he were purchasing one; but working horses are, in general, only walked and trotted. He looked at the mare particularly, out of curiosity, as he knew defender paid rather dear for her at the roup; and witness expected defender would leap upon her; and would have been satisfied of her soundness if he had been going to purchase her, from what he saw of her at that time.

James Guthrie, Haityburn, eight miles on the road to Keith market from defender's. Defender stopped at witness's house for two hours, to bait mares. Witness looked at the mares when defender left his house with them for the market; and asked defender why he was selling so many mares. Defender said he did not intend to sell them all, but only such as would take the market; for pursuer would have taken mares as sound without more inspection, if he had wanted to purchase, and he has a notion of looking at horses. Did not see the mares trotted. Has no doubt it is necessary to see a work horse trot, to see if he is sound.

James Carnegia, greive, Montblainy, saw defender at Keith market, September 1827, with said black mare. Looked at her to purchase; but before he could ask the price, another man began to bargain with the defender about the mare. Saw defender lead the mare about to let the man see her. Saw no lameness or defect about her, and she appeared quite sound. Afterwards asked if the mare was sold, as witness wished to purchase her. Did not see the mare trotted, and did not consi-

der it necessary, as he thought he could judge as well by walking as trotting whether she was sound. Was sure the mare was sound when he saw her in the market. It was on the lea, and not on the road he saw her.—*For pursuer.* From what witness saw of the mare, thinks he would have discovered if she had been lame or unsound.—By Mr. *Craigie* (one of the referees). Is aware that it is customary with dealers and judges of horses, before buying, to walk and trot the horse on the road.—*For defender.* Cannot say if or not the man who bought the mare trotted her on the road; but, if he was a horse-dealer, it was likely he would have done so, as that is the general practice.

Alexander Dark, vintner, saw the parties, in his tent at the fair, make the bargain about the mare. Held her at the door of the tent, and saw defender give her to the purchaser, who led her away. Saw no lameness about the mare. She was led to M'Gregor's stables, two hundred yards off.

Alexander Stuart, greive, Bracco, knows David Innes, who bought a black mare at public roup at Keith, for £13 10s. Bought her from Innes, who said she was as free from blemish as any he ever had in his stable. Paid £18 10s for her. Worked her regularly two years and a half. Never found or saw any thing ailing her all that time; and she did her work the same as the rest of the horses. She was after that sold, when Mr. Duff gave up the farm, for £25. Soon after witness got the mare, a man came and said he was a farrier from Edinburgh, and that he had been sent to see her, as she was considered lame; but said nothing about a law process. Witness took out the mare to let him see her, and walked, trotted, and turned her as narrowly as he could upon a paved road. The man examined her minutely, and, after he had done all this, he said he found no lameness on her, and that she was as sound a mare as was in the stable, and said that witness had got a very good mare. There never was any other farrier but the said man came to see her. The said man said, after he had walked and trotted her, but before he had handled her, that he supposed she would be taken back to the place where she was bought and shot; and witness said this would be a pity, as she was such a good beast, and that she should not be shot to him; and it was after this, and after the man had handled her as aforesaid, that he, the man, said that he found no lameness about her, and that she was a good beast: never saw any lameness about her. When he bought her from Innes for £18 10s, he thought he had got a very good bargain. He did not trot her when he bought her, but tried her by walking her. Has been a greive since 1823, but has had little experience in buying horses.

David Innes, Linimore, bought the mare at the roup, for £13 10s, kept her six weeks or two months, then sold her to Alexander Stuart, for Mr. Duff, for £18 10s. Did not pay much attention whether she was lame or sound, as he thought her worth the money, lame or sound; but never saw any lameness about her. He observed no swelling about her legs. Shewed her to an acquaintance going home from the sale, after he had bought her, and then thought her sound, and thinks to this hour she is so. Did not warrant her to Stewart. He never asked witness to do so. He had six horses in the stable when Stewart came to buy, and he told him to take his choice, and he fixed on the mare.

NOTES BY THE OVERSMAN IN THE JUDICIAL REFERENCE
OF THE CAUSE.

GAVIN DRUMMONDS, residing in Auchterarder, *against* JOHN LESLIE, residing at Redbrae, in the parish of Forglan.

THE oversman has considered the record, and the proof laid before the arbiters, and the cases since lodged for the parties; and the following are the views which he at present entertains on the subject:—

It appears to the oversman, that the following facts are admitted or established beyond doubt, viz.

1st, That on the morning of Wednesday, the 19th of September, 1827, the mare in question, and two other mares, were taken by the defender from his farm of Redbrae to the market stand at Keith, a distance of nineteen miles along the road.

2d, That on the afternoon of that day, the mare in question was sold by the defender to the pursuers, at the price of £25, warranted sound, and was delivered to one of the pursuers, by whom she was led from the market-place to the stables of Alexander M'Grigor, where she was placed for the night.

3d, That next morning the mare was palpably lame in one of her hind legs, which was visibly and much swollen from the hoof to the knee.

4th, That, two days after the sale, the mare was offered back to the defender as lame; but he refused to take her back.

5th, That after the mare had remained in M'Grigor's stable for about six weeks, she was sold by public roup, at his instance, in virtue of a warrant of the sheriff of Kincardineshire, and was purchased for £13 5s by David Innes, Linimore, who, after keeping her for a few months, and considering her sound, sold her for £18 10s to Mr. Duff, of Drummuir, in Botriphnie, who, after working her like other horses on his farm for two years and

a half, without observing her to be lame or unsound, sold her, when he gave up farming, for £25, to Roderick Morison, in Delmore Boharn, who still had her at the date of the proof, in September 1833, and had not found any fault with her. In regard to the other facts attempted to be established on either side, the evidence is more or less contradictory or unsatisfactory.

The truth, which the oversman must search for and discover if he can, is the soundness or unsoundness of the mare at the time of the sale.

The above established facts prove that the mare was lame next morning after the sale, and they go far to prove that she afterwards recovered from that lameness, and became worth as much as the pursuers paid for her.

But they are not conclusive as to her condition before or at the time of the sale. On that point the evidence is of two kinds—*direct* and *inferential*.

The *direct* evidence for the pursuers, as to the condition of the mare at the time of the sale, consists of the testimony of James Plampton, who says, that he saw the mare in the market before she was sold, and observed that she was lame in one of the hind legs, which lameness, he says, was quite apparent when she was led in the usual manner in the market.

This witness's testimony appears to be liable to the following observations: 1st. He is the only person brought forward who observed any lameness before the sale, although the mare travelled nineteen miles along the road, and was shewn all day in the market, and must have been seen by many. The observations of the deceased Mr. Elder rest solely on the testimony of this witness. 2d. He says he directed the attention of one of the pursuers to the lameness, before the mare was deposited in M'Grigor's (at least so the oversman understands the testimony); but the pursuer does not appear to have immediately acted upon that discovery as he ought to have done, and no explanation is given of his reason for not doing so; on the contrary, his conduct appears to have been inconsistent with such a communication. 3d. This witness does not say that the mare's leg was *swelled* on the 19th, which was its condition next morning, and which the pursuers' witness, Smith, says would be the immediate consequence of that rupture of the tendons which he says caused the lameness.

The *inferential* evidence for the pursuers, as to the condition of the mare at the time of the sale, consists of, 1st. The evidence which proves that on the morning of the next day (the 20th) the mare was lame. 2d. The evidence of the manner in which she was taken care of during the night of the 19th, as

excluding the possibility of the lameness having been contracted during that period. 3d. The evidence of the witnesses who saw her on the 20th, and afterwards at M'Grigor's, and who think that the lameness was not the result of any recent injury, but must have been of some standing. 4th.—The evidence of Thomas Smith, a man of skill, who examined her in November, 1827, when in the possession of Mr. Duff; and who says, that he discovered a rupture of the extensory tendons of the hind leg, and which he thinks had existed for four months at least prior to his inspection, which brings it to two months at least prior to the sale.

This evidence, so far as it consists of evidence of opinion, is liable to the following observations: 1st. The opinion of the persons who saw the mare at M'Grigor's, in regard to the endurance of the lameness, is, for the most part, not the opinion of persons of skill, and is wholly rested on the absence of any proof or visible mark of recent external violence. But, according to the evidence of Smith, the man of skill, the rupture might have been occasioned by a blow, and might also have been occasioned by a sprain or jerk; so that the absence of any external mark is no proof that the injury was not recent. 2d.—The appearance of the limb on the 20th was consistent with what Mr. Smith describes as the *immediate* consequence of a rupture of the tendons, when he says, that "swelling of the limb always ensues *immediately* after a rupture of the extensory tendons;" while, on the other hand, the lameness which existed on the 20th, and on account of which the mare was offered back, is not proved to have been a probable consequence of a rupture of the tendon existing two months previously: on the contrary, Mr. Smith says "he does not think it possible for a horse, having a rupture of the extensory tendons, to travel a distance of fifteen or twenty miles without a swelling arising on the limb sufficient to indicate the existence of the rupture; and by this he means *not a general swelling*, which will go off by exercise, but a swelling which will indicate a rupture to a professional man only." Now this mare had travelled nineteen miles in the morning, and had stood all day in the market; and there is no proof of any swelling in the course of that day, or in the evening: and the swelling which appeared next day is not such a swelling as Mr. Smith describes as "indicating a rupture to a professional man only," but is the opposite kind of swelling, which he describes as a "general swelling," obvious to the eye of the unskilled, and affecting the whole limb, from the hoof to the knee. Hence there is some reason for inferring, either that if the swelling, which arose during the night of the 19th and

morning of the 20th, was the result of a rupture of the extensor tendons, that rupture must have been occasioned by some sprain or jerk, or other injury, occurring after the sale, which is not impossible; and that Mr. Smith's opinion of its probable endurance, formed entirely from an inspection of the limb so late as November, and which opinion at least could only be speculative, is erroneous; or, that the swelling and lameness observed on the 20th, and on account of which the mare was offered back, had nothing to do with the rupture of which Mr. Smith speaks, but must have proceeded from some other cause, which did not exist at the time of the sale on the 19th, and which appears to have been temporary, as the mare appears to have afterwards recovered, and to have been for years past considered sound, and of full value.

On the part of the defender, the *direct* evidence consists of the testimony of several witnesses, some of whom knew the mare before, and who saw her on the day of the sale, both on the road to the market and at the market, and who speak to the absence of swelling or lameness, so far as their observation goes.

This evidence is liable to the following observations: 1st. That none of the witnesses saw the mare trotted out, which would have afforded them a better opportunity of judging of her soundness. 2d. That none of them except one (James Carnegra) examined the mare with a view to purchase her. 3d. That lameness may exist, though not observed; and, therefore, that the non-observation of lameness is not so conclusive of the absence of lameness, as the observation of it is conclusive of its presence.

The *inferential* evidence, on the part of the defender, consists of, 1st. The testimony of witnesses who knew and used the mare before the sale, and up to the day of the sale, without discovering any swelling or lameness. 2d. The testimony of witnesses who have known and used the mare subsequently, without discovering any lameness. 3d. The fact that the mare has since wrought as well as other horses, and has been sold for the same price of £25, and has given satisfaction to the purchasers. That evidence is liable to the following observations: 1st. That the mare may have been lame, though not observed by the witnesses; and that Mr. Smith's evidence goes to prove a rupture two months, at least, before the sale. 2d. That, undoubtedly, the mare was lame on the 20th September, and for several weeks afterwards. 3d. That the mare may have been worth £25 for the purposes of the subsequent purchaser, though not sound. But it is of some consequence to keep in view, 1st. That the witness, Barber, who wrought the mare for about twelve

months before the sale, during which time, if Mr. Smith's conjecture be right, the rupture and its consequence, immediate swelling, must have occurred, could scarcely have failed to observe such things. 2d. That both he and the witness, Barclay, had seen her ridden and trotted on all kinds of roads, and never saw her lame. Such being the import of the evidence, the oversman is at present inclined to hold, that the pursuers have not made out their case. It appears to the oversman that the mare was in a very different state on the morning of the 20th from what she was when sold on the afternoon of the 19th; and he is not satisfied that the change in her condition is attributable to any disease or cause existing at the time of the sale, while he thinks it may have resulted from some sprain or other cause occurring after the sale.

It appears to the oversman unnecessary to have any further written pleadings; but if the pursuers wish to be heard orally against the above views, they must make an application to that effect before the first boxday. Failing such application, the oversman will issue an award in favour of the defender; and it appears to the oversman that expenses ought to follow.

ADJUDICATION.

We are of opinion, that the oversman has come to a correct conclusion; but there are some points which would have enabled him to have done so more readily if they had been brought into view, and which shew the advantage which would have arisen to all parties by almost certainly stopping the proceeding in the commencement, if application had been made to a person properly acquainted with his profession; for it appears to us, that if a veterinary surgeon had seen the case, as described by the witnesses, they must have at once been able to discover by the degree of the lameness, and, as far as is proven, the rather sudden appearance of it, the extent and rapidity of the swelling, that the mischief must have arisen from some recent injury or disease. It is extremely probable, that the witness who suggests that it was a "*shot of grease*," was in the right so far, although there is nothing in the evidence which shews that it was the recurrence of an old attack; on the contrary, all the evidence is against such an opinion. The swelling and lameness might also have arisen from an injury, either on the road to the stable, or in it during the night, and a number of causes might have produced it, which could not readily meet the eye of the purchaser, or which could not have been known to any one; and although it is probable that the cause of the disease might have arisen

during any time of the day on which the sale took place, there seems more reason to conclude that it arose after the sale; but the suddenness of the lameness, the extent and rapidity of the swelling, together with what appears in the evidence, incontestibly proves, in our opinion, that the disease or injury, whatever it was, had its origin very approximate to the time of sale. The evident degree of lameness which existed after it was first discovered, and which was observed by some of the witnesses without much difficulty, the circumstance of the swelling continuing for a number of weeks, and afterwards disappearing, while it never was completely subdued by exercise for some weeks after it was first observed, all tend to shew that the disease was of recent origin; and, in the absence of evidence to the contrary, must be held to have taken place after coming into the pursuer's possession.

Veterinary Affairs.

THE ROYAL VETERINARY COLLEGE.

Gentlemen,

SEEING, in your number of THE VETERINARIAN of last August, Professor Coleman's Address to his pupils, I am induced to send to you a copy of a few words which he delivered in his theatre, on the 3d of December, respecting those young men who presented themselves for examination on the previous day.

“ It is pleasing, indeed, to me to see the great improvement of the generality of my pupils in every branch of knowledge connected with their profession. They seem particularly to have improved in chemistry since Dr. Paris became one of our examiners. Whether those young men learned chemistry by reading or experiment, or attending on lectures here or elsewhere, they answered their questions on this and all other branches of the profession so readily and correctly, that never were the examiners better pleased with my pupils, than they are at the present moment with those to whom I allude. And I trust this will be a warning and stimulus to all of you to persevere in your studies, and aspire to the honourable situation in which those gentlemen stand at the present moment; for, I assure you, that Messrs. Read, Gibbs, Garrett, Molyneux, &c. have done credit to this institution: and I hope they will become ornaments of the profession.”

You will allow me to tell you the present state of things at the College. The majority of the students is composed of

industrious young men, who seem to have great disposition to become well acquainted with the rudiments of their art; but I am sorry to say, the dissecting-room is slack, and I believe it to be owing to some system introduced this session, by a person who takes on himself the purchase of subjects at the expense of the pupils, whether they like it or not; so that, with this management, the pupils are destitute of those demonstrations and instructions which that department is intended for.

It is fortunate they can attend a neighbouring school, the conductor of which is continually at his post, for the improvement of his class. And I know, from experience, there is not a single person who attends his excellent instructions but fully appreciates their value.

I am, Gentlemen, your's, &c.

A STUDENT.

We have great pleasure in giving insertion to this letter:—so far as our observation and knowledge of the pupils go, they are, as he describes them, diligent and deserving. As to the account which our correspondent gives of the dissecting-room, reformation has long been wanting there. The particular fact which he states, he doubtless will be able and willing to substantiate.—Y.

Miscellanea.

PAUL PRY'S REMINISCENCES, No. 2.

“A chiel's amang ye takin' notes,
And, faith, he'll prent it.”

I KNOW they ought to be written, Messrs. Editors; they ought to be read. They should be written, and then they would be read; but time, gentlemen, time is wanting.

Eheu! fugaces Posthume, Posthume
Labuntur anni!

And time is a commodity of which the value rises as long as we live. This is my only excuse for having delayed sending you my “College Reminiscences” so long. We must be contented with doing, not what we wish, but what we can. Every one has surely felt that there have been moments in their existence—not moments of peculiar important events, but, on the contrary, of comparative insignificance—which have, nevertheless, left unaccountably strong impressions on the mind. So

trifling are sometimes the outward features of these recollections, that they may be forgotten by ourselves, until some as insignificant passing event touching the same string in our hearts, that former bright spot suddenly shines forth to our mind's eye in all its original scenery.

A veterinary friend of mine informed me last week, that he had discovered a remedy for glanders, the *vexata questio* of the veterinary science. And what do you suppose was this boasted specific, that was, at one fell swoop, to overturn the labours of Mr. Vines, and annihilate the blue drinks of the Assistant Professor Sewell for ever? Why, barytes! I had not heard this mineral mentioned for a long time, but it at once brought to my recollection a discussion which occurred at the London Veterinary Medical Society, on the properties of this medicine as a remedy for glanders. But, *quorum hæc*?

I have been led to make these remarks by way of introduction to the following scene, which occurred at the Veterinary College, in one of the evening discussions. A paper was read by Mr. W. Percivall, one of the present editors of THE VETERINARIAN, on this subject. Several veterinary practitioners were present, as much useful information on the nature and treatment of this disease was expected to be developed that evening. Mr. Sewell was the President. The author of the paper stated on the outset, that out of a number of cases of glanders, between twenty and thirty, which fell under his notice, he had had the good fortune to cure several of them by the administration of barytes. He was actuated, he said, by no other motive in bringing these cases before the society, than that they might be known to the brethren of the science, who, by repeating the experiments, might arrive at the truth. His paper contained thirteen cases of glanders, in five or six of which he had succeeded in effecting cures. A desultory conversation at first occurred, between Mr. Sewell and Mr. Percivall, on the comparative merits of the muriate of barytes and the sulphate of copper; and it was very evident to the pupils that the worthy Assistant Professor was not a little jealous of the effect that Mr. Percivall's paper might produce. It was, in fact, sulphate of copper *versus* barytes.—The following speech will perhaps convey a tolerable idea of Mr. Sewell's opinion on glanders:—"I have, gentlemen," he said (looking at the table, and playing with his pencil-case), "as you all very well know, paid particular attention to the nature of glanders. It has hitherto been supposed that this troublesome disease originated in the sinuses of the head; but I have proved, as plainly as any thing can be proved, that the lungs are the seat and origin of glanders, whilst the

affection in the nostrils is secondary. When the lungs are simply hepatized, a cure may be effected. Another stage of the disease is the tuberculous ; in this stage, likewise, a cure may be effected : but when the tubercles begin to suppurate, they run into one another, forming large abscesses, which discharge their contents through the bronchiæ : at this stage of the disease the animal had better be killed. I have ascertained, by repeated experiments, that the matter of a tuberculous lung will produce the disease in another horse, by inoculation, as surely as one potatoe will produce another.

“ With respect to the manner in which the tubercles are formed, that exist in the great majority of cases of glanders, this is as yet far from being determined. Some veterinarians are of opinion that they are distinct morbid tissues ; others regard them as the production of a morbid secretion. I confess that I am inclined to agree in the latter opinion, that a tubercle is the product of a morbid secretion, and that this process is preceded by an active congestion in the part, similar to that which occurs in every case, while secretion is going on, whether healthy or unhealthy.

“ With regard to my treatment of glanders, you must all be very well acquainted ; it consists in the administration of the sulphate of copper in a solution of water. This mineral may be given to the extent of two ounces for one dose in this manner ; but if given in a solid form, it would occasion inflammation of the coats of the stomach. By being dissolved in water, this is prevented, and it acts in a more general manner. I have usually given from four drachms to one ounce daily : it should be given on an empty stomach, as it is apt to be decomposed by any acid that may be generated there. I know that even three ounces of the sulphate of copper, dissolved in a quart of water, may be given every other day, or every day, if so large a quantity should be required. Mr. Percivall informed me, that he has given three ounces in a ball to a horse for one dose ; but this, in my opinion, is dangerous practice. I have already cured two glandered cases this year ; and I have great hopes, especially as the season of the year is rather unfavourable to the thing, of effecting another cure ; for, if they can be cured at this season, they may be cured at any time. As a local remedy I have applied setons with good effect. It was a common practice formerly to apply rowels underneath the jaw, but this is, in my opinion, too far from the seat of the inflammation. With regard to diet in this disease, the animal should have his constitution kept up by nutritious diet : fine flour is a very excellent diet in this complaint, as it contains a great deal of nourishment in a small bulk.”

This was the principal part of a discourse delivered by Mr.

Sewell on the debate in question. Nothing, indeed, could be more unexpected than the oration of the Assistant Professor on this memorable evening. That he should have talked so long without intermission was extraordinary, for one whose powers of speech had previously been seldom extended beyond the parliamentary standard of eloquence; in saying, "yes," or "no," in a case of consultation. I have not seen the worthy gentleman for some years; but at that period I considered him to be a fair sample of that homebred, upright, common sense, which seems to form the instinct of the mass; and which it is greatly the fashion to deride in those circles of "Vets" in which mystification passes for profound thinking and bold assumption for evidence.

There was a great deal of embarrassment at the commencement of his discourse, but this gradually wore off.

Mr. Percivall was of opinion that the lungs were not in every instance diseased at the commencement of glanders; he would rather say, that they were rarely or never so. "He had always considered, and he had been in the habit of finding, so far as proof could be adduced in such a case, that tubercles were the effect of glanders, and not the cause."

Mr. Sewell, in reply, said, "that he had examined many hundreds of horses that had died glandered, but never found one that had not tuberculous lungs."

Mr. Percivall stated, in answer to a question from a pupil as to the manner in which his specific acted on the constitution of horses, *that he did not consider it to be a specific*; it would be ridiculous thus prematurely for any one to suppose such a thing. He had said no more than that barytes had appeared to have been of service in several cases, and he wished to ascertain how far the experience of others coincided with his. Barytes was a medicine that required much caution in introducing it into the system. In large doses it caused sudden death; and its deleterious effects were accompanied with an intermittent pulse; indeed, the commencement of intermission was the signal of danger. In the horses that had died from an over-quantity being administered, he could not discover any particular lesion, on a post-mortem examination, except a slight inflammation of the stomach. The proper dose of barytes was from half a drachm to two drachms.

Mr. Sewell said, that "he considered that the sulphate of copper was a much safer medicine than barytes, and much more efficacious. The French veterinarians had tried the barytes, but they found the remedy to be as bad as the disease, inasmuch as it had killed their patients:"—and

In reply to a question from a pupil, Mr. Sewell said, "that

he should certainly consider *the sulphate of copper as a specific for glanders*, when administered in the first stage of the disease."

In reply to another question from a pupil, Mr. Sewell said, "that in one or two cases which had come under his notice of chronic glanders, with acute supervening, after the disease was eradicated there remained an unhealthy discharge from the nostrils, particularly in the morning, which was greater or less in degree, according to the animal's work on the preceding day. To ascertain if this discharge was infectious, he had inoculated an ass with the discharge, but no ill effects followed: he therefore considered it to be a mere nasal gleet, and not of an infectious nature. The gleet was produced in consequence of the inflammation having disorganized the secretory surfaces."

After a little sharp firing between Mr. Sewell and Mr. Percivall, a veterinary pupil, Mr. Harrison, now veterinary surgeon, I believe, of the 9th Lancers, complimented both gentlemen on the success they had hitherto met with, and wished them still more in their future experiments. "They both deserved the thanks of the profession; indeed," he said, "he believed that this was all the profit they were likely to get; for in seeking to discover a remedy for the disease, a man must not step out of the way, to look like Atalanta after the golden apples. He certainly was rather sceptical respecting Mr. Sewell's remedy being considered as a specific; he did not wish, he said, to throw a damp on the matter, but only to warn those who were over sanguine of its success, and who fancied that it would prove a specific which was to act with an effect more rapid and electrical than the fabled touch of Ithuriel's spear. Mr. Sewell had certainly cured two cases,—and Mr. Percivall had succeeded in curing some likewise, and each by different remedies; therefore he thought that each gentleman might say respecting glanders, as Newton said of himself, 'I have picked a few shells by the sea shore, but the great ocean of Truth lies undiscovered before me.' For the fact was, he believed, however unpalatable it might be to some, that the secret at present remained unsolved."

It would be almost impossible to record the various opinions on the nature and cure of glanders, as delivered on that memorable evening. Mr. Coleman's opinions on glanders were strongly advocated by many, whilst others had formed strange opinions of their own. Amongst the latter class, the opinions of Mr. Vines were most extraordinary. This gentleman had just obtained his diploma, and had but recently been inducted to the situation of Assistant Demonstrator at the College. He said, that Solleysel was the only person who had written any thing worth reading on the subject of glanders; that Solleysel believed

there were seven kinds of farcy—and for his part he believed that there was no such thing as specific poison being contained in its blood;—that the blood was never diseased in any complaint—that the terms glanders and farcy were erroneous terms for the disease in question, being terms that indicated unhealthy disease of certain parts of the body, particularly those of the mucous membrane which lines the nose, the substance of the lungs, the skin, and the cellular membrane underneath.”

An intelligent pupil congratulated Mr. Vines on his recent discoveries, and said, that he might now pride himself on having brought to light Solleysel's works, too long withheld from modern sight; and that he had no doubt, when he had published his discoveries, his treatment of the dreadful disease, the now “*opprobrium medicum*,” will cease to be “*telum imbellæ sine ictu*,” as it so long has been, if not worse; and that then we might say, in the words of Cicero, that we are snatched, a “*desperatione ad spem, ab exitio ad salutem*.” Mr. Vines thanked him for the well-merited compliment, and, with his hair on end, like Katerfelto at his own wonders, declared, “that although he did not understand Greek sufficient to comprehend all the speech he had just heard, yet he was determined to publish a book on glanders.”

I have given Mr. Vines' opinion, as delivered by him to the society, as well as I am able. The gentleman spoke too fast for my pencil to follow him. His speech appeared to me rather incomprehensible; the farther he went, the more he became bewildered: like circles in the water, his arguments became weaker as they extended, and vanished at last in the unmeasurable and unfathomable space of the vast unknown. During the evening's discussion, he appeared to excel more in monologue than dialogue, never allowing any one, if he could help it, to speak but himself.

I would it were in my power to do justice to every one of the speakers on that memorable night. Among the veterinary practitioners present, was Mr. Cherry, the elder. “So much,” he said, “had been written and published on the subject already, and so little to encourage a hope of any remedy, still less of a specific, being discovered for it, that he was very sceptical when any new plan of treatment or cure was announced.”

Mr. Smallbones, now veterinary surgeon, I believe, practising in Oxford, said “that his opinions respecting a specific being discovered coincided with those of Mr. Cherry and his friend Harrison; for, on taking the sum total of reported cases and recoveries, he believed that the latter had been to the former

about one in an hundred; and the result had come out under great variety of treatment; each person probably holding different opinions as to the origin and pathological conditions of the disease. Can it be said then," he continued, "that those poor animals who have struggled through the disease, under such experimental treatment, have been cured? May it not rather be said that they have escaped from the *nimia diligentia medicorum*, by the strength of good constitutions and the reparative energies of nature?"

Mr. W. Percivall concluded the evening's discussion by thanking the meeting for their attention to his paper, and begged to re-assure them, that the only object he had in presenting it to their notice was to elicit inquiry. It had been said by some of the pupils that he had better not be too sanguine of success; he was aware, he said, that medical practitioners and veterinary surgeons had sometimes their day dreams, as well as the poet: but such a charge could not be brought against those who took anatomy and physiology for their guide; who, not satisfied with the external part of the animal, examined minutely the component parts of the whole machine, and the operations which nature effected with beautiful simplicity in the regular adaptation of one part to another, and in the grand conformity of the whole.

The remarks of Mr. Percivall throughout the evening were replete with information. When discussing the nature and origin of glanders, he did not at first seem to have transcended the known boundaries of the question,—nor to have penetrated farther than his predecessors into the *terræ incognita* of the dispute; but, after awhile, we discovered our mistake, and perceived the efforts of a mind rich in the recollections of reading and observation.

In conclusion, Paul Pry has to beg the indulgence of those gentlemen whose speeches he may have misquoted, and likewise for omitting many that were given on this memorable evening. The names of many he has forgotten, and they have passed away from the memory, as well as the good things they uttered. But the recollection of the many evenings that he has passed at the College, when the society held their meetings, will never be lost, whilst memory exists. And frigid indeed must be the heart that does not bound the lighter whilst the tongue recounts the tales of by-gone days, nor warm awhile at reminiscences which form the phantasmagoria of the past. These weekly meetings, and the pleasures then enjoyed, mark the fairest of the few unblotted passages of life's manuscript; and are of that small number we can re-peruse without a sigh, and which we would not oblivate, though memory should consent to the erasure.

CLERICAL HORSE DEALER.

A complaint, which has caused a great deal of conversation in Bath, was made a few days ago by a French gentleman, named Lafu, against a clergyman who resides in the neighbourhood of that city, and who is remarkable for dealing very profitably in horses. The magistrate applied to on the occasion recommended that the case should be stated in a court of law, after having the following account from the lips of the Frenchman:—

Frenchman.—I go to buy a horse from him, and he ask me forty guinea. I say, No, by Gar; I no give that. Well, say the clergyman, I will tell you what: you shall have him for thirty-five guinea; but, d—n my eyes, you have him for no less.

Magistrate.—You could not think of dealing with a clergyman who was so ready to swear?

Frenchman.—Oui, I did: I thought a clergyman would not swear to any thing but true; so I paid him the money. Well, I got upon him, and he go beautiful: then I put him up in the Bell stables, and I ride him next day, and he go upon three legs. I put him up again, but he still go upon three legs, and then I give him a doctor; but, by Gar, he walk upon his knee; and so I say, By Gar, if you do walk upon your knees, I do not walk upon your back.

Magistrate.—You mean the horse was unsound?

Frenchman.—Oui! he had got the gout.

Magistrate.—The gout! horses don't get the gout.

Frenchman.—But he was a clergyman's horse, and they both have the gout. The horse's leg was swell, and so was the master's.

Magistrate.—Well; I suppose you sent back the horse?

Frenchman.—No, the clergyman said, D—n his eye, he'd no have him: but I asked Mr. Bell to buy him for thirty-five guineas; but he said, No, I would not give more than £5: so I keep him in the stable twelve weeks, and then I send him to be sold; and what do you think I got?

Magistrate.—Why, perhaps £5.

Frenchman.—No, by Gar; I got £15.

Magistrate.—Well, then, I think you received more than you had a right to expect in your transaction with this worthy clergyman.

Frenchman.—Receive! why I receive nothing. I got £15 to pay for the dinner.

Magistrate.—For the dinner?

Frenchman.—Oui, for my horse's dinner for twelve week, at Mr. Bell's stables.

The unfortunate Frenchman thus lost, by dealing with the reverend horse-jockey, no less than £50.

Farmer's Journal, April 28, 1823.

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLVI (continued).

Phrenitis in the Horse, Cattle, and Sheep.

WE sometimes meet with primary inflammation of the brain or its membranes, or of both; and of the membranes oftenest when both are not involved. At other times, if the determination of blood to the brain, of which I have been speaking, is not sufficient to destroy the animal, it produces considerable irritation by its continued presence, and thus terminates in inflammation. The farrier calls this disease *mad staggers*, in distinction from the quieter malady which we have been considering, and which he terms *sleepy staggers*.

Early Symptoms.—Whatever be the origin of phrenitis, its early symptoms are scarcely different from those of apoplexy. The horse is drowsy, stupid, his eye closes, he sleeps while he is in the act of eating, and doses until he falls: the pulse is slow and creeping, the breathing oppressed, yet stertorous and laborious. This is the description of apoplexy; the symptoms may differ a little in intensity and in continuance, but not much in kind. It is, nevertheless, most desirable that we should be enabled to distinguish the one from the other, in order that our preparation for the after stages may be different, and our treatment, if possible, even more energetic in the latter than in the former.

Difference between the Symptoms of Phrenitis and those of Apoplexy.—The phrenitic horse is not so perfectly comatose as his fellow that labours under apoplexy. The eye will respond a little to the action of light, and the animal is somewhat more manageable, or at least more susceptible, for he will shrink when he is struck, while the other often cares not at all for the whip.

In the duration of the early symptoms there is some difference. If the apoplexy proceeds from distention of the stomach, four-

and-twenty or six-and-thirty hours will scarcely pass without the cure being completed, or the stomach ruptured, or the horse destroyed; and if it proceeds more from oppression of the digestive organs than absolute distention of the stomach, and from that sympathy which subsists between the stomach and the brain, the disease will go on; it will get worse and worse every hour, and this imperfect comatose state will remain during two or three days: but the apoplexy of the phrenetic horse will not often last many hours.

Should be vigorously attacked in this early state.—Now is the time for exertion, and with fair hope of success. Bloodletting and physic being now carried to their full extent, the horse will be materially relieved, and often cured; but if this golden hour should be suffered to pass, or if remedial measures should be now ineffectual, the scene all at once changes, and the most violent re-action succeeds.

Later Symptoms.—The eye brightens—strangely so; the conjunctiva becomes suddenly reddened, and forms a frightful contrast with the transparency of the cornea; the pupil is dilated to the utmost; the nostril, before scarcely moving, being left to the influence of the organic nerves alone, now expands and quivers, and labours; the respiration becomes short and quick; the ears erect or bent forward to catch the slightest sound, and the horse, becoming more irritable every instant, shakes and trembles at the slightest motion.

The excessive violence of the Horse.—The irritability increases; it might be said to change to ferocity, but that the horse has no aim or object in what he does. He dashes himself violently about, plunges in every direction, rears on his hind legs, whirls round and round, and then falls backward with dreadful force. He lies for awhile exhausted; there is a remission of the symptoms, perhaps only for a minute or two, possibly for a quarter of an hour. Now again is the surgeon's time, and his courage and his adroitness will be put to the test. He must open, if he can, one or both jugulars; he may attempt, if he has time, to open the temporals also: but let him be on his guard, for the paroxysm will return with its former violence, and without the slightest warning.

The second paroxysm is more dreadful than the first. Again the animal whirls round and round, and plunges and falls; he seizes his clothing and tears it to pieces; perhaps, destitute of feeling and of consciousness, he bites and tears himself. He darts furiously at every thing within his reach; but no mind, no design, seems to mingle with and govern his fury.

Closing Symptoms.—Another and another remission, and a

return of the exacerbation follow, and then, wearied out, he becomes quiet: but it is not the quietness of returning reason; it is mere stupor. This continues for an uncertain period, when he begins to struggle again; but he is now probably unable to rise; he pants, and foams, and, at length exhausted, he dies.

How distinguished from Colic.—There are but two diseases with which phrenitis can be confounded, and they are colic and rabies. In colic the horse rises and falls, he rolls about, and kicks at his belly; but his struggles are tame compared with these. There is no involuntary spasm of any of the limbs, and the horse is sensible, and, looking piteously at his flanks, seems to tell us the seat of his pain. The beautifully, fearfully excited countenance of the one, and the piteous anxious gaze of the other, are sufficiently distinct; and, if it could be got at, the bounding rapid pulse of the one, and that of the other scarcely losing its natural character in the early stage, could not possibly be mistaken.

How distinguished from Rabies.—In rabies, when it does assume the ferocious form, there is even more violence than in phrenitis; and there is method and treachery too in that madness. There is the desire of mischief for its own sake; and there is frequently the artful stratagem to allure the victim within the reach of destruction. There is not a motion of which the rabid horse is not conscious, nor a person whom he does not recognize; but he labours under one all-absorbing feeling, the intense longing to devastate and to destroy.

Post-mortem Appearances.—The study of these is a neglected but most valuable branch of veterinary education; yet if there is any disease in which I should be inclined to doubt the dependence that could be placed upon them, it would be this. They are strangely, incomprehensibly, uncertain. I have seen the highest injection and inflammation of the membranes, and evident injection and inflammation of the substance, or portions of the substance of the brain; I have seen them both combined: and I have seen other cases, in which the horse had been furious to an extreme, and yet scarcely any trace of inflammation, or even of increased vascularity, could be detected. There were circumstances, however, about these cases which cast a faint light upon them, but into which it would be tedious to enter here. The lesson which you will learn from this uncertainty of morbid appearance, is to be very cautious in your prognosis. Young men often do themselves incalculable injury by their foolish tattling about the anticipated progress and result of disease, and of the appearances which they shall find to justify all their pretty speeches and absurd predictions.

Treatment.—Here again, gentlemen, comes the old story, yet a little varied: bleed—take as much blood as you can get—let the animal bleed on after he is down—*do not pin up the phrenitic horse at all.* You will never lose your patient by this—you will never do harm—but you may knock down the inflammation; and the first blow is here the whole of the battle.

Physic.—Then the physic; it should be that which can be readiest given, and which most speedily acts. The farina of the croton will here deserve the preference, and in no little dose either. I would give half a drachm. The intense inflammation of the brain yields me full assurance that I shall not easily set up any dangerous inflammation in the intestinal canal. This can be made into a very little ball, or drink, and, in some momentary remission of the symptoms, I may administer the one with the probang or the stick, or the other with the horn. Sometimes the apoplectic horse, when he will take nothing else, and is unconscious of every thing else, will plunge his nose in his gruel, and sip and swallow a little; and I have seen the phrenitic horse drink with the utmost avidity a little water that was offered to him. Repeated doses of purgative medicines may, perhaps, be thus given, and must be repeated until the bowels respond.

Blister.—We may next call in another powerful subduer of inflammation, but not in the efficient manner that we could wish. A counter-irritant, applied as nearly as possible to the seat of inflammation, will usually divert a portion of the inflammatory action from the old to the new tissue; and therefore we rub a blister over the forehead in this case, as soon as we can do so with proper regard to our personal safety. The cranial roof of the horse, however, is not only defended by the dense parietal bones, but *they* are thickly covered by a mass of muscle—the temporal muscles; and therefore the thickness of the bone and of the muscle is interposed between the brain and the new surface, which we expose to inflammatory action. The effect is consequently weakened; but some good may, notwithstanding, be done; and a blister should not be omitted. As for rowels and setons, they would be perfectly useless here; the business will be settled ere they scarcely begin to act.

Medicine.—Sedatives are here manifestly indicated if they can be given. Digitalis will stand at the head of our prescription in such a case. Its first and most powerful action is on the heart, diminishing both the number and strength of its pulsations; while, at the same time, it is a diuretic, but of no great power in the horse. To this must be added the other component parts of the fever ball—emetic tartar as a diaphoretic, and nitre as a diuretic, and a refrigerant; but *we must have no hellebore.* If

hellebore acts at all as a sedative, it is by promoting a somewhat unusual determination of blood to the brain, and thus causing a diminution of nervous agency. This may be excusable or even beneficial in pneumonia; but we have here too much determination of blood to the brain already.

We must not be solicitous about feeding in this complaint; no attempt should be made to coax the horse to eat: and even when appetite returns with the abatement of the inflammation, we must be exceedingly cautious with respect to both the quantity and the quality of the food.

Prognosis.—In such a case our prognosis must be very guardedly formed. No opinion should be given until some hours have passed after the first bleeding. If the pulse then becomes developed and soft, a germ of hope may be encouraged. If after the furious state has commenced, and before the strength of the horse is exhausted, the violence should abate, and the animal become conscious of surrounding objects, and less irritable, these may be regarded as favourable circumstances; but if the delirium remains unabated after copious depletion has taken place, little hope can be encouraged.

Phrenitis in Cattle.

THE Frenzy or Sough in cattle is too well known to the farmer and the practitioner. There are generally at first much oppression and heaviness; the animal can scarcely be induced to move; the eyes protrude and are red; the respiration is hurried, and delirium more or less intense rapidly succeeds. The beast rushes at every thing in its way—it mischievously selects its objects—it is in incessant action, galloping about with its tail arched—staggering—falling—bellowing hideously—its skin sticking to its ribs, and the sensibility of the spine exceedingly increased. There is, even in health, a peculiar formation of the eye, or a sensibility of the retina to certain colours, which makes the beast dislike a brilliant red: under this disease it excites him to the highest pitch of fury.

If, however, the previous oppression and stupidity are much less in the ox than in the horse, so is the succeeding violence increased; not even a rabid ox is a more fearful animal; and it is somewhat difficult to distinguish between the two diseases. There will probably be some history of a previous bite belonging to the rabid ox; and in the early stage, although there may be lowness or oppression, there is nothing like apoplexy or want of consciousness. Beside, with greater fury there is more method in the madness of the rabid than the phrenitic ox. The latter

will run at every thing which presents itself, but it is a sudden impulse. The former will, like the horse, plot mischief; he will endeavour to lure his victims within his reach. A much greater quantity of foam will be discharged from the mouth of the rabid than the phrenitic ox.

The causes are much the same as those of apoplexy—too stimulating food and too great redundancy of blood, to which may be added some immediately exciting cause, as hard and rapid work in sultry weather, over-driving, &c. In the neighbourhood of London too many instances of phrenitis occur from the latter cause. It once used to be the sport of brutes in human shape to excite it by selecting a beast from the herd, and driving it furiously from street to street.

The post-mortem appearances in the ox are always characteristic of the disease. The vessels of the cerebrum, the cerebellum, and the spinal chord, are highly injected—the membranes of the three are also loaded with blood. The lateral ventricles are distended with a serous fluid. The fourth stomach and the small intestines usually exhibit the most decided traces of inflammatory action. To a certain extent, however, and sometimes to a degree almost inconceivable, the whole venous system is gorged with black blood. The ox has, comparatively, more blood in him than the horse.

As to the treatment of phrenitis in cattle, there is some difficulty. Is any treatment practicable? Is human life to be hazarded? Cases will occur in which the bullet will be the best remedy; but then the flesh may be in such a congested state that it cannot be sold. If the beast can be managed or approached during a momentary remission of the symptoms, bleeding should be attempted; and if a vein can be opened, it should be suffered to bleed on as long as it will. Physic, if it can be given, will be indicated. Sometimes the beast labours under an insatiable thirst; and as his taste is not very exquisite now, he may be cheated with water in which Epsom salts have been dissolved. If there is time to get down a hornful of drink, a scruple or half a drachm of the farina of the croton nut may be administered, mixed with a little gruel. All other medicines are completely out of the question. If bleeding and physic will not save the ox, nothing will. Use should also be made of any temporary respite to confine the animal; or, if possible, to get him into some place where he cannot do much harm to himself or to any one else. Some persons have recommended setons of the black hellebore root inserted into the dewlap, and when these begin to act, they do generally act most tremendously; but the animal will have recovered, or he will be dead before the seton can have

any influence. The frenzy being subdued, the next consideration is, what is to be done with the beast. No more dependance can be placed on him than on one that had recovered from a fit of apoplexy. The purging system should be continued to a moderate degree; and the fever medicine given to abate the quickness of the circulation; and then, when the congested blood is got pretty well out of the system, and the vessels have got rid of their superfluous blood, and the flesh looks well, the sooner the beast is disposed of the better.

Phrenitis in Sheep.

IN the sheep the symptoms are the same—the eyes bright and prominent—the flanks heaving—the animal in constant motion; he cocks his tail and gallops about the field, and attacks his companions, or the shepherd, or even a post or tree that may chance to attract his attention.

Lambs.—In lambs the symptoms are sometimes very curious—they leap and jump about, and exhibit the most ridiculous antics. Mr. John Lawrence says that “on the borders of Suffolk several scores of lambs were seized with an uncommon malady, leaping and jumping about the fold-yard in a strange manner; and a dunghill being raised to a level with the eaves of a low-tiled barn, a number of the lambs ran skipping up to the top of the roof, as though they had been possessed by more devils than Mary Magdalene, or even the nuns of Loudon. The whole parish wisely concluded that they were bewitched, and a wretched and aged pauper became the object of their suspicion and deadly hatred. The senseless and infernal supposed prevention of witchcraft was resorted to, namely, burning one of the poor animals alive.”

Causes and Treatment.—These bear so close an analogy to what I have described in cattle, that I will not detain you by a repetition of them.

The dog is comparatively exempt from phrenitis. I never saw a case of what I could satisfy myself was pure phrenitis in this animal. These exemptions are singular; and, as veterinary science progresses, will be a subject of interesting inquiry.

ON WOUNDS PENETRATING INTO THE CHEST OF THE HORSE.

By M.M. U. LEBLANC, *M. V.*, and *Principal Editor of the Journal de Méd. Vét.*, and A. TROUSSEAU, *M.D.*

[Continued from page 71, and concluded.]

15. *Wounds of the Cavity of the Chest, complicated with Injury of the Pulmonary Tissue.*

WOUNDS of this kind may be classed under the following divisions:—

1. *Superficial Wounds of the Lung.*—Wounds an inch in depth, made with the blade of a bistoury retracted in a direction contrary to that in which it had been introduced, have never been followed by any marked derangement of the pulmonary functions. We have opened many horses that had been thus wounded. Some were destroyed two hours after the infliction of the wound; others were suffered to live two days afterwards. These wounds never produced any great degree of hemorrhage. After two hours they were very difficult to find, unless the exact spot on which they had been inflicted had been previously remarked. Their edges had been brought exactly together, and had been glued to each other, if we may so speak, by a layer of fibrine. The neighbourhood of the wound was a little reddened. After the lapse of a day, the portion surrounding the wound was of a somewhat yellow colour. The thin fibrous clot which re-united the edge of the wound was very solid; nevertheless, when we extended the wounded lung it always gave way at the situation of the wound. After two days the cicatrix was as firm as the pulmonary tissue itself.

2. *Deep Wounds of the Lung.*—The serious nature of these wounds seems to depend less than could be expected on their depth. We have seen wounds four or five inches deep, made with straight instruments, sharp and pointed, that have not been followed by any serious consequence, and that, in the space of an hour, have been closed by a fibrinous clot, like superficial wounds. On the other hand, we have seen a wound only two inches in depth, and made by the same instrument, produce death in a quarter of an hour. In this case the instrument had opened an artery, and one of the divisions of the bronchi. The animal died of suffocation from the presence of mingled blood and air in the bronchi. This complication of wound will seldom occur; for it was not until we had repeated the experiment many times, twenty at least, on different horses, that we were able to wound at the same time an artery and a bronchial tube.

In experimenting with this instrument, which was very sharp, and which was not more than six lines wide at the part which penetrated from two to five inches into the lung, we remarked, that sometimes we had wounded a small bronchial tube alone, and at other times only a bloodvessel. In the first case the animal soon began to breathe with difficulty, and exhibited all the symptoms of broken wind. Always there escaped from the nostril a little bloody fluid, but this lasted only during a few instants. The difficulty of breathing likewise disappeared in two or three days. This difficulty of breathing arose in some measure, we thought, from partial pulmonary emphysema, of which some traces remained at the examination after death; and, in some measure also, from the presence of a small quantity of blood in the bronchi, which had assumed a spumous character.

The simple wound of a vessel of somewhat considerable size produces less derangement of the respiratory functions; but these derangements continue during a longer time: we have watched them as many as ten days, and they had not entirely ceased when the horse was destroyed. On examination after death, we found a bloody infiltration of ten inches in diameter, and which had its seat in the interlobular cellular tissue. A vein as large as a goose quill had been cut entirely through. We did not find any blood in the pectoral cavity, and the pulmonary wound was entirely closed by a yellow clot, offering in some points cruoric masses. The interlobular interstices did not contain any more pure blood, but in the direction of the wound there was a yellow fibrous substance, with, here and there, points of a deep red.

After having introduced our cutting instrument, straight and pointed, to a depth of two inches only, we gave it a sawing motion, and very soon divided a sufficient number of bloodvessels and bronchi to produce a bronchial hemorrhage that soon destroyed the animal, especially when a direction was given to the instrument perpendicular to the vessels and the bronchi.

Wounds effected with large instruments, as a keen sabre, were always accompanied by hemorrhage, whether bronchial or pleural. These hemorrhages were great in proportion as the wound was accompanied by the introduction of air into the chest; we are enabled to state this from having left the wound open during several seconds. We have never seen the horse survive this complication of mischief two days. The horse that lived the longest had both a bronchial and pleural hemorrhage, but the bronchial hemorrhage was not very great, nor did it endure long enough to produce sudden death.

The following case proves that the introduction of air into the wound had great influence on the bleeding:—We had plunged a

bayonet into the left lung of a horse, and the weapon had penetrated to the depth of four inches. We took care that no air should enter the chest. The horse did not seem to experience any inconvenience during several seconds, and no blood was discharged through the nostrils. We then opened the wound, and suffered air to enter for about two minutes. The influence of the air immediately manifested itself by the ordinary symptoms, and blood also began to run from the nostrils; the mucous membrane became pale, the horse fell, and died three hours afterwards. On opening him, we found at least six pounds of blood in the left pleural cavity, and the wound in the lung contained a large clot of red blood. In other cases, when any animals died, suffocated by the presence of blood in the bronchi, the wound always contained a clot, but it was very small.

Wounds with a bayonet were generally less serious than those with a sabre. We have several times introduced the bayonet to the depth of four or five inches without producing death. This kind of wound is only serious when the weapon, after being introduced, is moved in different directions, for then the pulmonary tissue is torn: but sometimes even in that case death does not immediately follow, when air is not admitted into the wound.

Large and blunt instruments produce wounds of a very serious character; but these wounds are made with difficulty, and, consequently, are rare. Those that we have attempted have been with a table knife that had no point, and after we had penetrated the walls of the chest with another instrument; then, plunging the knife the whole of its length into the chest, we were enabled to make wounds of little depth only, and which were not followed by death, or by any very serious consequences. The animals would always have lived had we not destroyed them for the purpose of examination. These wounds were not followed by hemorrhage, and they explain why it happens, that, after the introduction of foreign bodies, long and blunt, to a very considerable depth into the chest, the animals are not destroyed. Although the instrument has penetrated deeply, the lung has only been pressed upon, and not deeply wounded.

Most of the horses that were the subjects of the preceding experiments lived a very little while; either they died spontaneously, or we sacrificed them: hence it happens that the nature of the pulmonary cicatrix has not been fully ascertained.

The following experiment enables us to fill this chasm:—We had plunged a blunt rod of iron, two inches in diameter, into the lung of a horse. It penetrated to a depth of eight inches, and was immediately drawn out again. No material bad consequences followed. We kept him during three weeks, and in

that period he was bled ten or twelve times. He lost but a little each time, perhaps not more than sixteen pounds in the whole (we were then making experiments on the blood), and he continued to feed well. When we examined him after death, no trace of the wound could be perceived except at the very orifice of it, where the serous membrane was of a white opal colour.

Another horse, on which we made the same experiment, was killed six or seven hours after the wound was inflicted. We followed the trace of the wound with much difficulty. It was somewhat tortuous (doubtless because the tissues which lay in the passage of the iron had offered different degrees of resistance); and it was marked by a black line formed by a clot of blood. The pulmonary tissue surrounding that line was in its natural state—not a trace of inflammation could be perceived through the whole course of the wound. It is very probable that in a little time the clot would have lost its colour, and would have at length entirely disappeared.

The following consequences seem to result from the consideration of these experiments;—that we ought always to avoid the introduction of air into the thoracic cavity, and therefore should never probe or sound wounds in the chest; and that we ought not to attempt to evacuate the blood which may be effused in the pleural cavities, although it may exist in a very considerable quantity, because that blood will be absorbed, if it has not been long in contact with the air; and also because the effort to evacuate it would be fruitless, the blood coagulating very shortly after it is effused.

Journal, Sep. 1834.

EXTRACTS FROM MY CASE-BOOK.

By Mr. SIMPSON, V. S.

No. XIII.

NEUROTOMY.

1834. *Sep. 24.*—A BAY mare, four years old. The patient became suddenly lame in the near fore leg, when at work six or seven months ago. In five weeks after this the off leg became equally affected, and the lameness has continued in both legs until the present time. The hoofs present the appearance of being extremely well formed, having a moderately concave and nearly circular sole, with a prominent frog, well defined bars, &c. Around the front of each there is, however, an indentation or ring; and, on more minute examination, the horn is hard and

unyielding, and the sole thick to a morbid degree. The present symptoms are, that she is continually pointing one foot or the other when at rest; the lameness diminishes after a little exercise, but returns after rest; and she shews great disinclination to trot. The case is clearly confirmed navicular lameness. When the lameness first appeared, various methods of shoeing and paring the feet were tried; and I believe the animal was placed under the care of different practitioners. In the infirmary of one, her shoulders were extensively blistered, after the fashion of those days when veterinary science was hid in worse than Cimmerian darkness; and she was finally turned out upon a common, and although her value estimated at thirty shillings, when sound, she was worth quite as many pounds.

The disease being evidently confirmed, I advise neurotomy, and directed her to be placed under preparative treatment for that operation.

Oct. 8.—To-day I excised an inch of the metacarpal nerves on both sides from both legs. The patient got up free from all appearance of lameness; and I can never forget the astonished countenance of the groom, when he witnessed the change. He could not believe his eyes. The portions of nerve he took home, and said he would keep them *for ever*.

28th.—The legs have undergone the regular process consequent upon the operation. The wounds are healed, and the mare seems as efficient as ever; she is therefore put to work at light jobs, being just three weeks after undergoing the operation.

Dec. 4th.—The groom tells me he is afraid the off hoof is coming off. On examining it, I find a fistulous wound on the inner coronet, into which I can introduce my finger, discharging a somewhat foetid matter, evidently caused originally by the calkin of the other shoe. It appears that, instead of continuing the mare at light and easy work, she has been for the last month used as shaft-horse in carting sand from a sand-hole, for filling up drains; about the roughest and most shaky work a horse can be put to. Even in her sound state she was not calculated for this work, being a light, active animal; and, in her present state, the consequence has been, that she has inflicted this wound on the opposite foot; but, shewing no lameness, it has not been noticed so soon as it otherwise would have been.

A saturated solution of sulphate of zinc, to be daily used for dressing the fistula.

14th.—Almost all trace of the wound has disappeared. The fistula has quite healed, and good horn is secreted as usual.

1835. Jan. 23d.—The mare has been at regular work until this time.

Remarks.—In the above case the patient was sent to work just three weeks after the operation of neurotomy was performed; and although this practice is at variance with the doctrine of Mr. Sewell, I do not see any reasonable objection against its adoption in all cases where neurotomy is employed, presuming that no symptom of existing inflammation is present, of which circumstance it is almost supererogatory to remark every judicious practitioner would satisfy himself before he decided upon operating. I remember reading a long and theoretic exposition of this operation in the pages of *THE VETERINARIAN*, translated from the French of MM. Dupuy and Prince, in which their argument against it is founded upon their most astonishing ignorance of the nervous system generally, and especially of the varied and distinct, and, to a certain extent, independent functions of its three divisions. They most absurdly assume, that upon the metacarpal nerves “depend alike the nutrition and sensibility of the parts to which they are given.” They speak of the changes in the shape and volume of the hoof, and appear to be sceptical as to the secretion of horn; and state, that the operation is almost only applicable to diseases arising from excess of nutrition. Now, had they been aware how totally unconnected these spinal nerves are with the nutritive or secretory process; or, allowing their want of knowledge of that well-founded fact, had they had practical experience in a single case where all feeling in the foot was cut off, I think they would not have published such a specimen of ingenious but unsound physiological reasoning as the paper alluded to contains. That all the vital powers are continued with energy, unimpaired by the excision of a part of the metacarpal nerves and the consequent suspension of all sensibility in the foot, is abundantly demonstrated in the extract I have made to-day. It will be seen, that, two months after the patient underwent the operation, she received a severe tread on the inner coronet of the off fore foot, from the raised heel of the opposite shoe. Had feeling remained in the part, the wound would, most probably, have been earlier discovered; but, being void of feeling, no lameness was apparent, and the grievance was undiscovered and neglected until it degenerated into a quittor. Yet by the application of Mr. Newport’s humane remedy, a healthy action is immediately set up, and in ten days hardly a vestige of disease remains. Had the French theory been correct, this effect could not have been produced. But I am dwelling on this simple point longer than its self-evidence renders necessary.

Before I conclude this hasty sketch, I would just observe, that the navicular disease affords one of the aptest illustrations of the

ruinous effects of entrusting a diseased animal to the superintendence of a man unprepared by anatomical and general medical knowledge. Not seeing a great staring wound, or a lump as big as his fist, he has no guide for his muddy judgment, but suffers it to flounder about as confused and unstable as a man returning from the companionship of "glorious souls," until, at length, he fixes upon the shoulder, as being the most prominent object, upon the same grounds that the aforesaid reeler would cling to a lamp-post. Having determined that the shoulder shall bear the blame, he sets to work with a zeal proportionate to his ignorance, and blisters and setons, and hot oils, are in daily requisition, until the owner's patience is exhausted, or the poor brute brought to death's door by constant irritation. Oh! shame on the man who will allow his mind to give way to prejudice so far as to put faith in such cruel empiricism!

SUCCESSFUL TREATMENT OF INFILTRATION AND INDURATION OF THE CELLULAR TISSUE OF THE LOWER PART OF THE LEGS OF HORSES.

By M. LARDIT, V.S. to the Dépôt at Braisne.

I WILL not trifle with the time of your readers in describing the symptoms which characterize infiltration and cellular induration of the lower portions of the limbs, for every person is well acquainted with them; nor will I speak of the causes of these lesions, for they are numerous, and too well known to be stated here: I will only relate a mode of treatment which has often been attended with a successful result when the usual means have failed. The usual means are, moderate exercise, tonic and stimulant frictions of various kinds, firing, the administration of diuretics, and the use of setons.

Convinced of the insufficiency of these means in various cases, I have made numerous slight incisions, or scarifications, through the skin, but which have sometimes produced inflammation so intense, that it was necessary to have recourse to emollient fomentations. The inflammation, however, soon disappeared, a sero-purulent fluid ran from the incisions, and the engorgement diminished, but only to re-appear a short time afterwards. I did not wait until it had acquired its former bulk, but repeated the incisions, and which produced renewed and increased improvement; and I continued this until the enlargement had entirely disappeared. I sometimes suffered three days to intervene between the incisions, and in the interval I employed emollient lotions.

When the disease resisted these means, and the engorgement occupied a great part of the leg, I applied the cautery to the incisions; and, finally, when this treatment was not of avail, I made more numerous and deeper scarifications, into which I introduced the cautery. By this I obtained an abundant supuration, and never failed to effect a cure.

I have found that this treatment has been advantageous when seconded, 1st, by setons placed in the thighs, or in the chest, accordingly as the seat of the disease was in the posterior or anterior limbs; 2d, by two or three bleedings from the jugular, with a view of favouring the absorption of the infiltrated fluids; 3d, the use of infusions of aromatic plants, and decoctions of bitter ones, towards the conclusion of the treatment; and, 4th, by moderate exercise.

These scarifications, which are so beneficial in chronic enlargements, were also of great use in inflammatory and critical tumours of great extent, and which were evidently increasing. The scarifications succeeded admirably after the ordinary means, as general bleedings and the application of liquid emollients, had been resorted to.

The result of my practice confirms the opinion of M. Lardit, as to the treatment of infiltration and cellular induration of the limbs by deep scarifications and the cautery. I have many times seen enormous chronic enlargements of the hock, shank bone, fetlock, and pasterns disappear by these means alone. I have sometimes neglected the previous scarification, and have contented myself with penetrating through the integument and cellular tissue, with a thin and rather sharp iron, brought to a white heat. I seldom employ any auxiliary measure. I have often seen horses thus treated sent to work on the day of the operation, or a few days afterwards. Horses of little blood, and naturally devoid of irritability, experience no fever of re-action to any appreciable degree, and are seldom off their food for a single day.

—U. LEBLANC.

Journal.

SEVERE CASE OF ACUTE FOUNDER, IN WHICH DEATH WAS PRODUCED BY EXTREME IRRITATION.

By Mr. HORSBURGH, V.S., Castleton, N. B.

ON Friday night last I was sent for to see a mare that was said to be foundered. She had run to Edinburgh the night before, had come home late, and did not appear ill; but in the morning she was so stiff that she could not move. She had been bled from the neck and from the plate veins in the forenoon, and had had a ball of aloes $\mathfrak{z}\text{viij}$ about nine o'clock at night. I found her standing with her head wedged, as it were, into one corner of the manger, and bent a little on one side, from which position it was almost impossible to put her back. The legs were stiff and wide apart, the tail elevated; the body, legs, ears, and nose had a natural heat; pulse 78, respiration 50, the flanks heaving violently, the nostrils dilated, but the membrane not much injected; the respiratory murmur on auscultation was violent, and the body, legs, and neck had severe spasmodic twitchings every three or four minutes, which shook her as if she was suddenly startled. There was no alteration in the eye; she took notice of every thing going on around her, and drank a little water, often shaking her lips in it after drinking. I bled her to the amount of four quarts. The blood presented a considerable buffy coat. I then gave pulv. antim. $\mathfrak{z}\text{ii}$, tart. antim. $\mathfrak{z}\text{iss}$, nitre $\mathfrak{z}\text{iiij}$, in gruel, and op. $\mathfrak{z}\text{ss}$, in a small ball. I proposed blistering the sides, which the owner objected to, thinking it was only founder, and saying that he would rather see her dead than marked on the sides by blisters. With great reluctance I consented to defer it until morning, when, if she was no better, I was to have liberty to blister her. On the next morning she was worse; the pulse 80, respiration 60, and, at intervals of about four minutes, so uncommonly violent, that the flanks heaved like a pair of bellows, the nostrils were dilated to their utmost extent, and she seemed as if she would suddenly fall down and die; but this was succeeded again by a few minutes of quiet. I applied a large blister to each side, and along the sternum, and gave pulv. antim. $\mathfrak{z}\text{ij}$, tart. antim. $\mathfrak{z}\text{i}$, nitre $\mathfrak{z}\text{ij}$, in gruel, the dose to be repeated in four hours. I also ordered clysters, and gruel to drink.

I saw her again in the afternoon; the blisters were acting well: there was no appearance of purging: she was breathing in the same way, but, if possible, more laboriously; pulse 84. I took two quarts of blood. The spasmodic affection had ceased

shortly after blistering; and after bleeding the pulse fell to 76. She was removed from the stall to a small house, where she kept turning always to the left side, and slowly went round by the wall, stopping a little at a small open window. The eyes appeared quite right, and she took notice of every thing around her. She continued in the same way till about ten o'clock, when she suddenly made a rush forward to a corner, fell, and expired with a violent struggle.

I was convinced from the first that the lungs were affected; but the legs, ears, and nose remained moderately warm during the whole of the time. The pulse was also rather fuller than it usually is in inflammation of the lungs; neither did I ever see these spasms, or intervals of acute pain and comparative quiet, and without any dulness in the countenance; and although it was thought at first to have been founder, and there was considerable stiffness of the legs, yet there was no heat of the feet, no pulsating of the artery at the pastern, and no inclination to lie down. It was such a case as I had never met with before, nor have I ever seen an account of such an one; therefore, immediately after death I proceeded to examine the body.

I found the abdominal viscera perfectly healthy. Many large white spots were on the muscular portion of the diaphragm, which I conjectured to be produced by some former disease. On opening the thorax I was surprised at the extreme smallness of the lungs (some of the bystanders saying they were no larger than a sow's). This was produced by the anterior parts being collapsed, but with numberless emphysematous appearances under the pleura, apparently from rupture of the air cells. The posterior parts were a little inflamed, but not so much so as to cause death; indeed, I believe the cause of death must be sought not in the disease of any particular part, but in general and overwhelming irritation.

October 13, 1834.

A CASE OF INFLAMMATION OF THE CŒCUM AND COLON, CONTEMPORANEOUS WITH UNDUE SECRETION OF MILK, IN A MARE.

By M. FELIX VOGELY, V.S., Lyons.

A RED sorrel mare, about eight or nine years old, belonging to the artillery, was shewn at my weekly inspection on the 28th of June 1834: she had had during the last month an unusual

secretion of milk ("gulactorrhœa"). She had not had a foal since she was bought in 1831; nevertheless, her udder had become full of milk, and there was no alteration in the quantity of it whether she was at work or at rest.

Notwithstanding this continual drain, she was in a very satisfactory state of condition; her appetite was moderate, and her pulse and the actions of her flank had a peculiar appearance of labour, which I am unable precisely to describe. She had been dismissed from the infirmary on the 7th of June, where she had been on account of some chest affection from the 21st of April. I ordered mashes and moderate exercise, and expressed my opinion that nothing serious was to be apprehended: I rested that opinion on analogous facts in the human female, when she no longer gave suck, and also on the apparent state of convalescence in which the mare then was.

Fourteen days passed, the mare was exercised like other horses of the artillery, and did her work well. She had now regained her appetite and spirits notwithstanding the continued secretion and discharge of milk, and every function seemed to be perfectly performed, except that she was not quite so strong as before.

At this time a change took place in the veterinary department of the regiment, and she passed under the care of M. Jarryon; and being inspected by him on the 12th of July, he sent her again to the infirmary. She was put under treatment for this undue secretion of milk, which ran from her in a continual and not very small jet. The populeum ointment was rubbed on the udder, and the mare was put on very restricted diet.

14th.—An ounce of aloes was administered in honey; and, to increase the action of the purgative, I ordered her to be led about for a considerable time on the following day. These orders were very much exceeded, and she was taken back to the stable evidently fatigued; and even then she was not bled.

16th & 17th.—The physic worked in a satisfactory manner; the pulse was neither quick nor full, but rather soft: the skin was loose, and she had some appetite.

18th.—The running of the milk had entirely ceased; the physic had also ceased to operate, and the mash diet was continued.

19th to the 24th.—She seemed to be gaining a little condition and strength; the appetite was as good as that of a healthy horse, and the pulse was natural. She was suffered to have more food than on the former days. No corn had hitherto been allowed her: she was now suffered to have some; and on the 26th, she resumed her post at the battery at 10 o'clock. She was, however, scarcely there before a violent dysentery suddenly appeared: the animal soon became so weak that she could not stand; she

was covered with cold sweat, exhaling that peculiar odour, *sui generis*, belonging to sick horses, and which practitioners immediately recognize. The nose, ears, and extremities were cold; the pulse wiry, small, hard, and quick; the matter evacuated had covered the tail and the thighs; it was fluid, of a brown colour, and had more the appearance of human excrement than as proceeding from a mare.

I immediately diagnosticated gangrenous enteritis, and predicted a fatal and speedy issue. I proposed to bleed her, in order to develop the pulse, which was almost imperceptible; and also to act as a useful derivative. The blood was thick and black, and flowed gently down the neck. We had great difficulty in abstracting two pounds, which, after standing in a vase, presented a coat of a dirty grey colour, five or six lines in thickness, supported by a clot that had scarcely the consistence of currant jelly. The application of large vesicatories to the thighs and the sides of the chest being resolved on, I made incisions into the skin in a lozenge-like form, and these wounds were thickly covered with blister ointment; and I predicted that the patient would not live four hours, if, in the mean time, considerable swelling did not take place. My prognosis was rigorously fulfilled; and I believe it is a general observation in acute diseases that the issue will be fatal when the skin seems to have lost its sensibility, and stimulating applications have no effect upon it. A decoction of linseed, and in which poppy-heads and belladonna leaves were infused, was prepared, in order to be administered, both in injection and by the mouth. Our cares, however, were fruitless; the blisters did not rise, and the mare died at about the expiration of the predicted time. She was immediately opened, in the presence of MM. Jarryon and Giguet, my colleagues in the regiment.

The thoracic viscera were perfectly sound, and the cranium presented nothing unusual. In the digestive organs there were the following morbid appearances:—the small intestines and the rectum were sound; but the mucous membrane, and the mucous membrane alone of the large intestines, was sphacelated through its whole extent; its colour was of a deep black brown, but here and there were points and patches of a decided black colour, while the membrane generally was covered by a thick and granulous mucus resembling a coat of mud. These morbid appearances were confined to the origin and termination of the large intestines, where they commenced and broke off suddenly.

The liver presented nothing unusual except its pale pink colour, and the little adherence of its pleural covering, that might be raised with perfect ease from the parenchyma, which was easily

torn, and exhibited on its lacerated surfaces large granulations of a rather deeper colour.

The udder, in which no trace of milk was found, was slightly indurated.

The abdominal viscera were covered and protected by a thick layer of fatty matter.

From the detached account of this case, in my opinion the following questions arise:—

1st, Was the flow of milk the consequence of the former chest affection; and if so, how is it to be accounted for?

2d, Was it independent of the pneumonic disease; and, if so, what was its origin?

3d, Was the inflammation of the cœcum and colon the consequence of the suppression of the flow of milk?

4th, Was it occasioned by the action of the aloes, too much increased by the exercise of the 15th?

5th, Was the disease of the liver contemporary with or anterior to that of the chest?

6th, The sound state of the lungs; does it not seem to indicate that there was no previous pneumonic affection? and that the practitioners who had treated the mare for it had formed an erroneous diagnostic in placing in the chest a malady of the liver—an organ the diseases of which are not yet well known, and which circumstance would, in a great measure, excuse the mistake?

Journal, Sep. 1834.

DETERMINATION OF BLOOD TO THE HEAD, AND AMAUROSIS, IN A COW.

By Mr. G. CLELAND, Rosewell, N. B.

ON the 25th June, 1832, I was sent for to attend a cow, the property of Dr. Smith, of Dun Esk, that had been taken badly on the 23d, with a shaking, loss of milk and cud, that would neither eat nor drink, and that had not dunged for several days. I was informed that they had a cow-doctor to her, and that he bled her, and gave her a drink of 2 quarts of ale, 4 oz. of mustard, 2 oz. of ground pepper, and 1lb of treacle; and that after this she had rapidly got worse. When I examined her, I found her to be blind; the pulse was 82, and there was a constant grinding with her teeth and foaming at the mouth. The shaking fits came on at times, and then she would catch the stall with her mouth, and hold it fast until the shaking went off, when she would then tumble down very much exhausted. I gave her 1lb

of Epsom salts and 12 oz. of castor oil. I back-raked her, and took a great quantity of black slimy dung from her; administered several clysters, and ordered gruel to be given through the night every three hours.

26th.—No better. Pulse 82; the shaking still continues; and she catches at any thing with her mouth, and supports herself until the fit goes off. She has neither dunged nor urined. I gave her 12 oz. Epsom salts, 12 oz. castor oil, and 2 drs. of emetic tartar. I back-raked her, and found no dung. Clysters and gruel were given often in large quantities. I visited her in the afternoon, and found her respiration very laborious. I bled her copiously, and blistered her on both sides. She pushes her head against the wall as if she would break her neck, if not kept back. I back-raked her, but found no dung. I blistered her head, and had her back well rubbed with turpentine and oil. Clysters and gruel as before.

27th.—No better. Pulse the same. I gave 10 oz. of salts and 10 oz. of castor oil; and I back-raked her, but found no dung. Clysters, with a large quantity of salad oil and gruel, to be often thrown up.

28th.—As before, except that a little dung had come away in the night. Pulse the same. I was told that the owner had given some doses of magnesia. I then gave her 2 quarts of good strong ale, 2 drs. ginger, and ordered the clysters and gruel as before.

29th.—The shaking fits violent, and she continues to push her head against the wall. Her head was again blistered all over; 2 quarts of ale and 2 drs. ginger were given. This forenoon she was thought to cud a little. Clysters and gruel as before.

About midnight a great palpitation of her heart came on; it was so loud, that everybody present was alarmed. She roared and tumbled about, up and down. Clysters and gruel continued.

30th.—Still no improvement. She is getting very weak. The owner wished her to be killed; but ere this could be done she began to dung, and discharged a large quantity of urine. As I was waiting to see the effect of this, and was at some distance from her, I heard the palpitation begin. I pushed her head from the wall, and got cold water and threw it on her head, and the fit went off in a short time. I back-raked, and got a great deal of dung away. She dunged several times, and urined. Pulse 80. About mid-day she was offered a pailful of water; she drank greedily of it. A little grass was put before her; she ate it, but she shook at intervals, and pushed her head against the wall. Clysters continued.

July 1st.—A little better; but she still pushes her head against the wall when the shaking comes on, which, however, is not so frequently. Give 1 dr. tartar emetic, twice daily. She continues to eat and drink, and dung. Pulse 73. Clysters still continued.

2d.—A little better; but still pushes her head occasionally against the wall. I again blistered her head, and continued the clysters. On this day, for the first time, she began to see a little. After that she rapidly got better, and is now doing well.

FRACTURE OF THE INTERNAL PLATE OF THE SCAPULA.

By M. DELAGUETTE.

WHEN the regiments of the Imperial Guard marched to Rochfort, on their way to Spain, I was desired to look at the horse of one of the troopers, that had its shoulder very much swelled. I immediately visited him, and found that his left shoulder projected in an extraordinary manner. There was no enlargement on the external face, but it appeared to be forced from the body by a considerable tumour between the scapula and the ribs. There was no lesion at all externally, and I did not know how to account for what I saw. The dragoon told me that his horse was quite well in the morning, and was not in the slightest degree lame, and that it was only three quarters of a league before he arrived at Rochfort, that he had begun to go lame; that the shoulder had then begun to swell, and that it was with the greatest difficulty that he could get him to his journey's end.

On moving the limb in various directions, and applying my ear to the shoulder, I could distinguish a very obscure crepitus. I reported, that I considered the horse to have fractured the bone of the shoulder, and I had orders to destroy him.

On examining him after death, my prognosis was justified. I found the shoulder forced from the walls of the chest by a great quantity of blood effused into the cellular tissue, while a portion of the inner plate of the scapula, about three inches square, and at the dorsal angle, was detached from the body of the bone, and had produced the hæmorrhage by tearing the muscles and bloodvessels.

The days were short, and the horse could not rest himself unless at night. Our march was a forced one; we set out before day-break. I was alone, and had the care of 800 horses, and consequently was fully occupied and thoroughly fatigued. This prevented me from making the accurate examination I could have wished. I was desirous to ascertain what had been the cause of this extraordinary fracture, and if it was of recent date; but I was compelled to satisfy myself with merely guessing at the thing, and went to attend on other horses.

Journal, Dec. 1834.

FRACTURE OF THE SCAPULA.

By Mr. FULLER, V. S., March.

ON the 2d instant, I was requested to see a thoroughbred filly, the property of Mr. John Tibbett, of Doddington Fen, who informed me, that, on his return from St. Ives' market, she fell suddenly lame of the near leg, when galloping at about three-quarter speed. He immediately dismounted, at which time he was about nine miles from home. With great difficulty he induced her to walk to within one mile of his house, when she lay down much exhausted. Mr. T. then procured a sledge, and got her home that evening, and fomented the shoulder the greater part of the night.

On the following morning, when I saw her, I readily discovered that the scapula was fractured in a transverse direction. I immediately placed her in slings; after which, the near foot was kept from the ground by means of a kneeband, and the fracture was easily reduced. I then applied about twenty yards of flannel bandage with a compress upon the fracture, and ordered her to have bran mash until I saw her again.

On visiting her on the following morning, I was informed that she had been out of the slings, and had undone all that I had applied the day before. I again suspended her, but with no better result, for she appeared determined not to submit to the confinement.

Other expedients were tried, but she was perfectly unmanageable; and on the fifth day after the accident symptoms of tetanus came on. Seeing no probability of her recovery, she was destroyed.

I examined the shoulder after death, and found the muscles about the fracture dreadfully lacerated.

The annexed drawing is a rough sketch of the fracture.



ON FARCY.

By M. HAMONT, Founder and Director of the Veterinary School at Abou-Zabel.—

[Continued from p.77, and concluded.]

THE nature of Farcy being known, we may certainly, for a while at least, diminish or destroy all innate predisposition to it. It remains, then, to determine whence we may obtain stallions on which our hope of accomplishing this may be founded. Farcy having been considered as peculiar to cold and wet countries, some have thought of searching for them in warm climates. Arab horses have been bought at great expence either in Egypt or in Syria; but these stallions, so beautiful and so vigorous, have not answered the expectations of the governments that purchased them. An Egyptian asked one of us, whether, by crossing the females of a hot country with males from a cold one their progeny might not be preserved from farcy? Animals of a mountain breed, fed on animal and vegetable diet, crossed with those of the plains, ought to produce a race that had little disposition to farcy: but the influence of locality, incessantly acting on the animal economy, would render it necessary to have frequent recourse to these crossings; and then, this system being universally pursued, and a different mode of feeding adopted, the malady of which we are treating might perhaps be caused entirely to disappear. This is not an affection that is likely to give way to medicine, although every one has his favourite mode of treatment, and there are few drugs the power of which has not been tried, and none of them with any satisfactory result. Some of the incendiary corrosive substances that have been given have often strangely aggravated the evil. Vitet advised the employment of fumigations of orpiment, and water saturated with white arsenic. Lafosse had recourse to emollients and discutients, according to the state of the farcy tumours. Chabert prescribed sudorifics and diaphoretic antimony. Gohier, professor of the school of Lyons, used decoctions of hemlock. A French veterinary surgeon, formerly professor of the school of Milan, cured many cases of farcy by the use of large doses of sulphur. While one of us was at Alfort, the Professor of Pathology, M. Barthélemy, sen., administered Kermes mineral in very large doses, and also cured many horses by this mode of treatment. These isolated cures, however, have not changed the general opinion. It is not the surgeon who records the case that has cured the farcied horse: it is not the effect of the medicines that have been employed: it is the work of nature alone.

Hurtrel D'Arboval has advised the employment of decoctions of hops and wormwood, and gentian and bark, in order to restore to the sanguineous system the predominance which it had lost. The school of Lyons endeavoured to withdraw the animal from the influence of the predisposing causes.

The Egyptians apply the cautery: it is the only weapon with which they oppose the disease. They do not cauterize the buttons, the ulcers; but they strangely endeavour to draw from its lurking-place the tissue really affected, by lines scored with a red-hot iron, and which they apply without principle and without mercy. This method of proceeding is attended by no advantage. It often aggravates the evil, and it brings on complications of disease and inflammatory engorgements, which hasten the death of the animal.

As soon as farcy appears, the Wahabites send the horses to little huts, where proper persons are charged with their treatment. They are as much as possible placed in localities where they will be exposed to little heat. These men begin with purging the horse, by means of a fossil common in the Hedjar. They form it into balls, which M. Gand has seen. The dose is said to be about three drachms. We have never been able to procure this salt, which is said to possess a strong acid taste. Dried figs, soaked in water, are their principal food. Every day at noon each horse has a certain quantity of camel's milk. The ulcerated surfaces are washed with the same salt that is given as physic, diluted in water. The health of the animal beginning to be restored, he is sent off to the mountains. The inhabitants consider that farcy may be cured, if it has not been too long neglected.

Our situation in Egypt has enabled us to see a great many cases of this disease. Out of nearly a hundred horses, which the infirmary of the veterinary school always contains, half of them are affected with farcy. We have employed, in turn, every medicine, and we have tried to its full extent that which the skilful or the unskilful have recommended. The disease, however, proceeded, and our patients died, only to be replaced by others whom the same fate awaited. Bleedings, local or general, were never followed by any apparent benefit, whether they were had recourse to early or late in the disease. Mercurial preparations administered internally, and whether in moderate or excessive doses, and continued for a long space of time, were never attended by any advantageous result. During two months we kept two horses on meat broth, and they died like the rest; the disease, however, was previously far advanced in them, and the Arabs had been applying the fire to various parts of the body that were considerably tumefied. Every means that the wildest

fancy or the sagest counsel had advised having failed, we knew not what to do. Emollients, tonic bitters, the application of the cautery, the use of the blister, all, far from being serviceable, seemed to aggravate the evil. At length there remained nothing to be tried but the ointment of the sulphuret of potash. Several horses were put under treatment with it. The affected parts were well rubbed with it many times in the course of twenty-four hours. After some days the success was complete—they were cured. We attributed the fortunate result to chance—to nature; nevertheless we repeated the experiment, and upon a greater number of horses, and the success was the same: we continued it, and we found that farcy was a curable disease, at least, if attacked before it had become inveterate—constitutional.

We observed, that when the ointment of the sulphuret of potash had been continued during a considerable time, the skin became red and sore: we then employed cataplasms, or decoctions of belladonna, until the irritation had disappeared. We diminished the quantity of food, and gave white drinks, or chaff only. Ordinarily, however, the patients were left to their usual regimen. When the buttons were hard, frictions with mercurial ointment softened them. A very light application of the actual cautery favoured the cicatrization of yellow and sanious ulcers which were occasionally found about the eyes, on the forehead, the nostrils, or the limbs. The severe application of the iron was always injurious rather than useful.

We were obliged to continue this mode of treatment for a long time if farcy attacked the limbs; but generally we succeeded. The frictions with the ointment of the sulphuret of potash were singularly successful in promoting the healing of farcy ulcers, and the resolution of farcy swellings.

Conclusions.

If we compare what has been said of leprosy in the human being and farcy in the horse, we cannot fail of recognizing a perfect identity between them; with a few modifications only, resulting from difference of organization. We cannot assign the precise period when leprosy was imported into Europe, and to this day an impenetrable obscurity veils the origin of farcy. There is nothing in human or veterinary medicine that can dispel the darkness. Their identity is demonstrated by lesions which are found both in men and in the horse from the commencement to the close of the disease. There are the same premonitory symptoms—the same progress—the same buttons—the same ulcers—and on the same parts of the body. We have not, however, seen in the human being the subcutaneous purulent

dépôts which are often observed in the horse. The skin of the latter is thicker, and does not permit the purulent matter so readily to escape.

The perishing, the dropping off of some of the extremities, is a frequent termination of the disease in men. This is confined in the horse to the fall of the hoof, and has not affected the parts above, and which in this animal are larger and more strongly knit together. As to the symptoms which precede and accompany the developement of this disease in man, febrile symptoms, disturbed digestion, and general languor, are almost invariably observed; they are not, however, seen in the horse. A well-known law explains this difference. If the same malady affects various classes of beings, the symptoms are more serious, general, and complicated in him who occupies the highest rank; and they diminish in intensity and extent in proportion as the number of the organs and the complication of the functions diminish.

In those parts of the East that we have visited, wherever leprosy appears, farcy is its inseparable companion.

If leprosy has disappeared in Europe, we must search for the reason in that civilization which has done so much for man and so little for the horse.

Leprosy seldom exists among the negroes, and farcy rarely attacks a black horse.

The causes are similar—animals that live for a long time on one description of food are liable to farcy. Those that are affected with leprosy live either on salt-fish, as in Greece and Cyprus; or on doura and bad cheese, as in Palestine, Egypt, and Arabia. So horses that are fed on chaff, and barley, and oats alone, or on chaff and hay, are they better kept, so far as preservation from farcy goes, in proportion as these articles are extended? We think not; but horses that are fed on a mixture of animal and vegetable food are not susceptible of the disease. The horses of the Shérif Ali, although kept in places where farcy was most frequent, were exempt from it.

The number of farcied horses surpassed that of the human beings that were leprous, because man, however miserable may be his situation, always finds some means of sustaining himself against the influence of deleterious agents, and especially atmospheric ones.

Finally, the success which we have obtained, both on men and on the quadruped, by an analogous mode of treatment, completes the confirmation of the identity of leprosy and farcy.

Remarks by the Editor of the Journal.

I have endeavoured, like MM. Hamont and Pruner, to compare together the two maladies described by these authors, but I confess that I have not been able to trace an identity between them; and in their *conclusions* I should have preferred to have seen a succinct recapitulation of the original observations which their memoir contains, than a fruitless attempt to establish that which has no existence. This recapitulation, which is often the only part of a memoir that one reads with attention, would then have been more useful. Among other things they would have reminded us,

1. That the opinion of M. Hurtrel D'Arboval, of the sympathetic influence of intestinal irritation in the production of farcy, is not admissible.

2. That it is deserving of remark that farcy should be so common in hot countries, and in proportion to the degree of heat, since, among us, it much more frequently appears in summer than in winter.

3. That farcy is oftener met with in flat than mountainous countries.

4. That after six months of contact—often immediate—between sound and farcied horses, farcy has not proved itself to be contagious.

5. That inoculation with the matter of farcy has not produced the disease.

6. That farcy does not seem to be hereditary.

7. That a diet, partly vegetable and partly animal, may prevent the attack of farcy.

8. That friction with the sulphuret of potash, in the form of ointment, on farcy buttons and tumours, has often cured the disease.

TETANUS.

[Continued from p. 27, No. 85.]

By Mr. W. F. KARKEEK, V. S., Truro.

THE reader will bring to his recollection the result of the three dissections described in the preceding part of this paper: they are proofs of the brain and spinal marrow being affected in tetanus. Similar observations have been made by many others; there cannot, therefore, be a doubt of these organs being diseased in every instance. It has been supposed that lesions of the spinal

marrow were alone the cause of tetanus, as the voluntary muscles only are affected ; and the grand source, if we may so speak of the nerves of voluntary muscles, is the spinal marrow ; but a disease of the spinal chord would not account for the spasmodic action of the muscles of the jaw, face, &c., as they receive their nerves almost in a direct way from the brain.

Yet, although the brain and spinal marrow have been thus proved to be diseased in a case of tetanus, we are by no means warranted in concluding, that *inflammation* of those organs exists in the majority of cases ; for numerous have been the cases where no inflammatory appearance has been discovered. I much doubt, whether inflammation may be considered as a necessary concomitant of this disease, since it so often takes place without any quickness of pulse, or other febrile symptoms.

But there are other organs diseased in tetanic cases besides those we have mentioned. There are evident proofs of lesions to a considerable extent existing in the stomach and bowels. The branches of the sympathetic nerve surrounding the stomach are likewise observed to partake of the inflammation, and red patches are seen in the small intestines at different places ; altogether proving, beyond a doubt, that great irritation exists in the digestive organs.

Now, it is evidently a point of much practical importance to decide, whether these lesions observed in the stomach and bowels are merely symptomatic, or whether they may not be considered as the primary malady.

I believe the latter position to be the correct one. Tetanus depends, if any disease does, upon *sympathy*. It is a nervous disorder, and may be defined to be the result of an injury upon certain nerves, by means of which the morbid influence is conveyed to the brain and spinal marrow, whence it is reflected through the motor nerves to the muscular system ; and this morbid influence conveyed, is evidently caused by a deranged state of the digestive organs.

A rather singular case occurred in my practice but a few weeks since, which, in conjunction with the *post-mortem* observations before alluded to, proves the correctness of this opinion.

I was attending a horse belonging to a farmer, about ten miles from my residence, and, after I had finished the business for which I had been employed, he cursorily remarked, that he had a three-year old colt, in an adjoining field, that had lately been ill with the strangles. “ He did not recover his health,” he said, “ as soon as he expected, and, although it was more than three weeks since the abscess had broken and discharged, yet there was still a very small hole left underneath the jaw ; he had

probed it, and found it to be about a quarter of an inch deep, yet it did not heal. The colt was very poor, and fed badly, and he had been turned out to grass by day, the weather being uncommonly mild; but, to prevent the cold from injuring him, he had tied some flannel around the throat." I examined the colt, and remarked, that the flannel might as well be taken away, and, as for the wound, I thought that it was very nearly healed; but particularly recommended him to attend to the general health of the animal—to give him nourishing diet, such as oats, bran, carrots, turnips, &c., as he was considerably out of condition.

In about a week from this period I received a message from the owner of the colt, briefly informing me, "that, in consequence of attending to my advice," viz., taking off the flannel bandage, that the colt had taken cold, and had 'becomed locked jawed;' and, as he believed that I was instrumental in producing this complaint, he thought that I ought to attempt to cure it, free of expense." I did not exactly relish this message; but, having nothing better to do at the time, I soon reached the farmer's house. I found the poor suffering animal labouring under a case of acute tetanus. The limbs were stiff, and almost immoveable,—the nostrils expanded and drawn up,—the eyes distorted,—the countenance haggard, and expressive of extreme agony. The spasms were violent, and almost constant; and, ere I had been present half an hour, a violent convulsive fit put an end to his misery.

I proceeded immediately to dissect the animal, which I did with the greatest minuteness, particularly the parts immediately surrounding the throat, &c.; but not the slightest morbid appearance was perceivable in the nerves of the part. I examined the brain and spinal marrow, and they were likewise free from disease, except a slight inflammatory tint in their investing membranes. But, on viewing the stomach and bowels, the cause of the disease was very apparent. The stomach was considerably inflamed, particularly at its pyloric orifice, and the small intestines were covered with dark gangrenous patches at different places. There were likewise a large number of bot-worms in the stomach, and fortunately so for me, for the farmer no sooner saw them, than he exclaimed, "There! that's enough; I see the cause of this complaint—it's the worms. I knew two horses that died of locked jaw before, from these here things. There's enough there to lock the jaws of all the horses that I have got."

I said, fortunately for me; for if the farmer had not been satisfied as to the cause in his own mind, I should probably have lost a good customer for the future.

Now, in this case, leaving the bot-worms and the farmer's theory out of the question, it was very evident that the cause existed in the digestive organs. If this disease had not been so very acute, I might probably have attempted to produce a fresh action in the wound underneath the jaw, by means of caustics, &c.; but this the reader will perceive could have been of no service, inasmuch as the local irritation had altogether ceased. But, though the irritation of the wound had ceased, it had existed sufficiently long to produce the morbid appearances which were observed in the stomach and bowels, and which, re-acting on the nervous system, was the cause of tetanus. Admit this, and we can easily explain why, after the amputation of a limb, from the injury of which tetanus has arisen, the symptoms are not mitigated; because the disordered state of the digestive organs, established during the irritative state of the wound, is still present, although the original irritation has ceased. This also explains why the indication of cure, which is generally applicable in other diseases, namely, the removal of the exciting cause, has but little effect in a morbid condition which is the consequence of causes that have ceased to act. I have heard instances of tetanus being produced by docking, when re-docking has removed the disease as by a charm. I have tried this once; I nearly cut off the whole tail of the animal, but did not succeed in producing the least mitigation of the symptoms.

In such cases as these, where we might reasonably suppose local irritation to be still operating, the most effectual method of counteracting its effects on the system, would obviously be, to intercept all communication between the seat of the irritation and the sensorium.

In another case of tetanus, produced by a prick from shoeing, and in one proceeding from a wound of the joint capsule of the navicular bone, by picking up a nail on the road side, I tried the experiment of dividing all the nerves going to the part affected; but in neither of these cases did I perceive the least mitigation of the symptoms. I found in all three cases, on dissection, some slight inflammatory appearance in the membranes of the brain, and spinal envelopes. A more or less inflammatory appearance in the sensible portions of the stomachs, and likewise in the small intestines. The sympathetic nerves were likewise observed to be inflamed, as in the former cases that I have mentioned.

With regard to idiopathic tetanus, I am of opinion that a diseased state of the digestive organs is invariably the primary cause, as, on dissection, I have ever discovered it to exist.

The reader will recollect the two cases of idiopathic tetanus

described in the first portion of this paper*. They were extraordinary instances of the removal of disease from one place to the other by the translation of inflammation, and consequently irritation, to a different part. I think that there cannot be a doubt on the subject, as to the cause that produced the disease in these two instances ; the stomach and bowels were evidently diseased.

In conformity, then, with those opinions, I determined to try the effect of strong blisters on the abdomen on the next patient that came under my care afflicted with tetanus ; for as I attributed the success that attended those two cases to metastasis, I thought if I could produce a counter-action on the system by blistering the skin, that I might be fortunate enough to produce a similar result. The trial proved the correctness of my opinion. Two opportunities were soon afforded me ; for, as I stated before, tetanus was a disease which occurred frequently in the West of Cornwall, which I suppose is owing to the land being surrounded almost by the sea, and bordering so closely upon it.

The first case was a brown horse, three years old : he was attacked in the early part of last spring. It was certainly a favourable case, as the jaws were opened sufficiently wide to allow a drink to be administered by a bottle. I first gave him 3x of Barbadoes aloes, and bled to the amount of two gallons. The hair was then cut closely round the bowels, and a strong powerful blister was applied. I had it well rubbed in by two men, one on each side.

2d day.—The bleeding is repeated, and ʒij of opium administered.

3d day.—The blister had acted well ; opium repeated.

4th day.—The blister was washed off, and a fresh one applied. Bled to the amount of two gallons ; administered aloes and opium of each ʒij, and ordered laxative clysters three times a-day.

5th day.—The dung is hard and slimy ; the clysters, aloes, and opium given as before.

6th day.—Ditto ditto.

7th day.—Another blister is applied, and a large rowel inserted in the chest. From the noise in the bowels I expect the animal will soon purge ; discontinue the medicine, but repeat the clysters.

8th day.—The animal is freely purged. The stool is almost wholly slime, and smells very offensively.

9th day.—The purging has not ceased ; the jaws are partly relaxed, the spasms are less violent, and the animal is better.

* Vide p. 23, No. 85.

10th day.—From this period the animal began to get better; he was turned out to grass in the early part of the summer, and soon recovered his former strength.

The animal had eaten but little food; his diet was chiefly bran and bruised oats, and he drank thin gruel. The patient's symptoms were mitigated as soon as the bowels were acted on; and the discharge was considerable, considering the small quantity of food consumed. It appeared to me to consist chiefly of a morbid secretion of the alimentary canal, &c.

The next case happened in the middle of the summer. I pursued nearly the same method of treatment as in the former case, with this exception, the former being in good condition, and this one a poor miserable, half-starved mare, the remedies that were employed were, of course, milder, and I bled her only once. Two blisters were applied from the first to the sixth day. In the course of the sixth night the animal was obliged to be slung to prevent her falling, and a liniment composed of olive oil ℥j, spirits of turpentine 4oz., and sulphuric acid 1oz. was prescribed, a part of which was ordered to be rubbed on the blistered surface daily. I had not the slightest idea of the animal's recovery; and being five miles distance from my residence, I did not see her again for six days, when I was agreeably surprised to find her out of the slings, the jaws completely relaxed, and the spasms altogether subsided, although she was left in a very weak and debilitated state. The proprietor informed me, that purging had commenced on the evening of the seventh day, from which time she began to get better.

In both these cases the animals had drunk thin gruel, and had fed on bran mashes and ground oats sprinkled with water, and cut grass. I refrain from drenching with gruel, even when it may be easily accomplished, as the effort always brings on a violent paroxysm of spasms. Deglutition is, in the most favourable cases, difficult, but more particularly when the patient is alarmed.

The reader will observe the large doses of aloes and opium that I have given. It is astonishing how the system, when labouring under a tetanic disease, will resist the operation of these and other remedies, which, in ordinary cases, would have been more than sufficient to overpower and destroy it. It seems requisite to augment the dose rapidly, as the disease presses upon us every hour; no time, therefore, should be lost, while there is a chance of controlling its fury. The approaching closing of the jaws and difficulty of deglutition may increase, so as to render it impossible to introduce medicines into the stomach; and without we can act on the stomach and bowels by strong purgatives, and

produce secretions from the alimentary canal, I consider the case to be altogether hopeless.

In the four cases that were cured, the attacks were not attended with much febrile action; the pulse was, on an average, from 48 to 58; but when the spasms were violent, the pulse became hurried and irregular. The blood that was drawn, in one instance, exhibited a considerable degree of inflammation, being almost all coagulable lymph; the others shewed no unusual appearance.

I must not now, however, conclude the paper, without stating that I have very lately met with a case of tetanus, which I considered to be a favourable one. I applied the same remedies which I found to succeed in the two last cases, but the animal died on the fifth day.

I shall, however, try this method of treatment, again and again, if favourable cases are afforded me. I mean, by favourable cases, those of the chronic kind, which, on account of the gradual progress of the symptoms, afford opportunities of being successfully treated.

The remedy that I have suggested may share the same fate as many others have before,—tried in the balance, and found wanting,—for it has been found that what has succeeded in one instance, is of no avail in another; and I am very much inclined to believe that there are numerous instances of tetanus in which the disease gradually wears out, and spontaneously terminates, but which we are apt to impute to the effect of the treatment that has been employed.

I have come to this conclusion at the termination of my paper, partly in consequence of the ill success I experienced in my last case, and partly to warn those who might try the plan that I have recommended, not to be too sanguine of success; for this mysterious disease may be said to baffle every mode of practice, since numerous are the plans that have succeeded, but more numerous are the cases in which the same plans have miscarried.

There are few things that shew so substantially the mighty and awful power of disease, and of our incapability of arresting its progress, as to see a fine noble horse die tetanic. The case that I have mentioned as being produced by docking was an example of this. He was a fine handsome colt about three years old; had shewed no symptoms of illness until about a fortnight after the operation. Being of an irritable temperament, he suffered dreadfully. The spasms were almost always present, and the tongue, which in most cases continues to possess voluntary motion to the last, had been forcibly propelled through the opening by the side of the mouth, where it was dreadfully

lacerated. I did not see the animal until he had been ill two days ; I then recommended him to be destroyed, which was immediately done. And thus died, by means of this mysterious disease, a creature which, a few days before, was full of wild life and noble fire, and stood on the sublimest point of animal existence, proving that our boasted knowledge is of no avail,—perhaps

“ Vain wisdom all, and false philosophy.”

There is always a wide field for speculation on subjects that are mysterious. The disease in question is evidently one of these, inasmuch as we cannot ascend a palpable ladder of cause and effect. Our minds cannot see what we explore; our remedies must, therefore, be empirical.

Before I conclude this paper, I beg to state, that the four cases which I have described as cured in this paper were of the *idiopathic* kind. I never tried this method which I pursued with so much success in a case of *traumatic tetanus*, though I intend to do so. Generally speaking, cases of the latter kind are too rapid and too violent in their progress to afford the least chance of a successful termination.

THE RE-ABSORPTION OF PUS CONSIDERED AS AN IMMEDIATE CAUSE OF DISEASE.

By M. RENAULT, Professor at the School of Alfort, and Principal Editor of the Recueil.

IN a prior article, M. Renault gave an interesting account of the opinions of human practitioners on this subject, the insertion of which, however, would cause us to deviate too much from our usual plan. He stated the material points on which modern physicians and surgeons were agreed, and succinctly narrated their differences of opinion. He principally dwelt on the anatomical lesions, which, on the examination of the dead body, clearly proved that pus had been absorbed, and had mingled with the blood ; he stated that the lungs and the liver were the organs in which the pus was oftenest deposited in the circulation of the blood ; he described with precision the characters which distinguished it in the first of these organs—the metastatic depôts of pus resulting from pulmonary inflammation ;—he also indicated the colour and consistence so remarkably different which the blood presented after the absorption of pus, and as it was seen in the ventricles of the heart.

“ I now proceed,” says M. Renault, “ to cite some cases

which appear to me to prove the absorption of pus in domesticated animals, and to call the attention of my confrères to a question too much neglected in veterinary medicine, and which, nevertheless, is highly important. What light will it not throw on the etiology of certain diseases, frequent and serious, if it can be shewn that they often proceed from the re-absorption of pus? at the same time, what indications will they not unfold of the proper treatment of suppurating wounds? I will limit myself at present to the point of practice under which this question may be considered.

“ In the facts which I am about to state, pure pus has not been met with in the blood; but the circumstances in which the animals have been found—the perfect similitude in the lesions and alterations observed in the dead bodies, with those which in the human being are regarded as the consequence of purulent re-absorptions—appear to me to leave no doubt about the matter.”

CASE I.

An entire draught horse, four years old, was brought to the hospital to be treated for fistulous withers. The fistula had existed nearly three months. It commenced with a large tumour, which burst spontaneously, and from which a great deal of pus ran during fifteen days. At that time the opening from which it issued being almost entirely cicatrized, a fresh tumour formed, and enlarged and spread so much, that the owner was frightened, and, for the first time, consulted a veterinary surgeon. He made two large incisions on the right side of the swelling, in order to empty the abscess, and to favour the future discharge of pus. Some days after this operation, the horse *began to cough from time to time*, then *the cough became more and more frequent*—the horse got thin, and the pus continued to run as plentifully as at first from the wounds in the withers.

The horse was now brought to the hospital. The withers were enlarged from the posterior part to the commencement of the crest. From the anterior one of the two wounds there ran, *when the tumour was pressed upon*, a sero-purulent grumous fluid, exhaling the odour of caries. The probe penetrated more than eight inches into a fistulous sinus. It was decided that the horse should be operated on in the course of the following day; and, in the meantime, the wounds were washed with a solution of chloride of lime, and the horse put on half-diet.

21st.—Since last night the horse has coughed frequently, and *the cough was dry*. He was cast and operated on. The devastation was frightful. Two spinous apophyses, and nearly half a foot of the posterior part of the cervical ligament, were carious.

The carious parts were excised, and the cautery was applied to every part that was diseased.

Prognostic.—Unfavourable.

22d.—Strong fever. Considerable emphysematous engorgement about the withers, descending to the base of the crest; a gangrenous odour from the wounds. Deep scarifications; lotions of chloride of lime. He died at nine o'clock in the evening. He was opened thirteen hours after death. Besides the alterations produced in the withers by the gangrene and long-continued suppuration, *the tissue of the right lung was thickly set with ecchymoses, varying in extent from the size of a pea to that of a pin's head. Other ecchymoses more considerable than these surrounded little masses of concrete pus, deposited here and there in the pulmonary parenchyma. Some of these masses were almost as large as a nut, no part of this caseous matter was encysted.* The same changes, but not so numerous, were found in the left lung. The tissue of the heart was pale and flaccid. *The left cavities contained little blood. The blood in the right cavity had formed a large coagulum, black, and of little consistence. The posterior vena cava, from the part where it received the crural trunks to its entrance into the right auricle, was filled with a long, white, firm coagulum, and in which there was no mixture of red.*

The other viscera were sound.

CASE II.

A gelding, aged fourteen or fifteen years, entered the hospital August 27, 1833, with pneumonia. Five or six months before, after a slight contusion, an abscess was developed about the middle of the four last false ribs. It burst spontaneously; a small quantity of pus escaped; and then the abscess closed, and appeared to be healed. A month afterwards, a new tumour appeared, which remained for some time without breaking; but the pus at length forced for itself an issue, after which the wound which was the result was not slow in cicatrizing, but it did not perfectly heal; and there always remained a little fistula, from which a small quantity of pus escaped now and then. The animal did not appear to be much affected; the owner paid him no attention, and he continued to work.

About ten or twelve days ago, the part, the seat of the first abscess, began to enlarge, and, for the third time, a fluctuation announced the presence of pus; and, as he had done before, the owner left the reservoir of pus to open of itself. This time, however, a large portion of the integument became gangrened, and the result was a wound as large as the palm of the hand. It was scarcely three days since the disease began actually to mani-

fest itself; but it had made fearful progress, and the animal was brought to the hospital.

He was exceedingly feeble—sadly depressed—without appetite—the nostrils dilated—the flanks heavy—the respiration accelerated and irregular—the expired air penetratingly fetid—and there ran from the nose a little rose-coloured fluid with a well-characterized gangrenous smell. Auscultation was had recourse to; nothing was to be heard but a very feeble respiratory murmur in the left lung—a much more feeble one in the right—and no murmur at all in many parts of both lungs, and particularly of the right lung; nevertheless, both sides of the chest resounded loudly on percussion.

Diagnostic.—Gangrenous inflammation of the right lung and of some part of the left one.

Prognostic.—Death at hand.

It is of importance to remark, that, two days before the appearance of the disease in the lungs, the owner had observed a diminution, and then a complete suppression, of the suppuration of the wound on the side. It was on the day of the suppression that he was attacked with pneumonia. When he was brought to the hospital the wound had a livid redness round it, with a leaden tint at its centre, where opened a fistula which extended three inches forwards under the subcutaneous muscle.

Treatment.—The application of a mild vesicatory ointment to the wound; chloruretted fumigations; an electuary containing two ounces of bark and two drachms of camphor; nitrated white drinks.

He died in the night of the 30th and 31st.

Opening, four hours after death.—The internal surface of the chest beset with numerous ecchymoses. The left lobe of the lung equally ecchymosed on some points of its surface, and presenting within, ten or twelve gangrenous spots, varying in size from that of a small nut to a pullet's egg. The centre of each of these little masses was composed of a purulent matter, of a white grey colour, and mingled with broken down gangrenous particles. These morbid products had no determined envelope—their limits were those of the mortified tissue. The cellular tissue between them was sound; but there was one portion of this tissue so infiltrated with blood, that it resembled a clot of blood of one or two lines in thickness. This clot was, in its turn, surrounded with cellular tissue that crepitated between the fingers. All these gangrenous portions communicated with the bronchial tubes.

The right lobe was entirely changed into a deliquium of the colour of the lees of wine, and of an infectious odour, and in which it was impossible to trace any organization. The left ven-

tricle of the heart was filled with black blood, not coagulated, and resembling liquid pitch. The right ventricle was occupied by an albuminous coagulum, of a yellow colour, and which filled the whole of the cavity.

There was no direct communication between the wound on the side and the interior of the chest.

To these cases, in which the horse was the patient, I could add five others that very much resembled them. In three of them the animals were destroyed on account of fistula in the poll or withers, deemed incurable; the fourth died from the consequences of thrombus, which had been suppurating nearly three months; the fifth was a horse that had been operated upon for sarcocele, and that died after twenty-two days' abundant suppuration.

On examining them after death, the blood was found in every one of them *small in quantity and not coagulated* in the left cavities of the heart, but forming *dense masses of white coagulum, distinctly united to a black coagulum much less abundant*, and reflecting a *green tint* at the point of the junction of the two clots, and which, in many subjects, were prolonged, and also reunited, and yet distinct in the large veins running into the right auricle.

In the lungs of all of the five horses I found little ecchymoses disseminated in greater or less numbers through the pulmonary tissues; little masses of concrete pus of a caseous consistence, varying in bulk from the head of a pin to that of a large filberd;—some of them surrounded by a red areola, a sort of ecchymosis of a colour somewhat deep; others circumscribed by pulmonary tissue, yet crepitating, but evidently already infiltrated with matter similar to that which constituted the central depôt, and without the slightest trace of ecchymosis.

I will add, that among the horses that have been treated for fistulous withers and poll-evil, in the hospital at Alfort, within the last two years, M. Delafond and myself have remarked that the greater part have coughed during the early period of the suppuration, and before the pus had become thick and of a good character; and that in some of them the cough was so violent as to render it necessary to employ bleedings, fumigations, and sedative medicines.

Recueil, Aug. 1834.

[To be continued.]

APTHA, OR THRUSH IN THE HORSE.

By Mr. FRED. W. PRICE, V.S.

[We have much pleasure in inserting this essay on a disease, strangely neglected by our veterinary writers. It was read at

one of the sittings of the London Veterinary Medical Society, about the time that Mr. Price obtained his diploma from the College. The old stager observes with much interest these first efforts of the future supporters and stars of our profession.—Y.]

Gentlemen,

I HAVE the honour of proposing for discussion this evening a disease of the mouth, and other organs connected therewith, in the horse, termed Thrush; so called, I imagine, from a disease of a somewhat similar nature in the human being, and designated by the name of Thrush, or Aptha. The term is familiar to most veterinary surgeons; yet I have not found the disease spoken of under either of these appellations in any of our English veterinary authors.

It is, however, of much more frequent occurrence than has generally been imagined; but has been too much confounded with a host of other affections of a totally different nature: and, besides this, *effects* have been, generally speaking, looked upon as causes, and remedies applied accordingly.

Although not directly mentioned, it is evidently alluded to by Blaine and White, and some others, when treating of indigestion, morbid condition, dyspepsia, &c.

Gervaise Markham, who wrote nearly 250 years ago, thus speaks of a disease which he terms “canker in the mouth,” but much more analogous to Aptha. “Canker in the mouth is a venemous and fretting ulcer, which proceedeth from the unnatural heat either of the brain or stomach, which distilling in salt rhumes into the mouth, doth breed raw and fretting ulcers; the signs whereof are rawness of the mouth and tongue, blisterings, white furrings, and such like; the cure whereof is, Take strong vinegar and alum, rubbing the sores three or four times a-day for two or three days together, until it be whole.” He also speaks of canker caused by wearing a rusty bit—canker from wearing an improper bit; both of which he describes as being very different from the former; and he also speaks of an extraordinary heat in the mouth and lips, which proceedeth from the stomach without ulceration of the mouth.

White observes, that “sometimes during dentition, the *whole mouth* becomes inflamed and sore, and this state generally extends to the stomach, causing loss of appetite, &c.” In another place he says, “young horses often fall off in their appetites, and at this period there is often a considerable soreness of the mouth, in which the mucous membrane of the stomach and bowels participate. During teething there is often a degree of soreness about the gums, when soft food should be given for a few days; and, as the stomach and bowels are sometimes affected,

also a little nitre may be given in the mashes. If the mouth appears very sore, it may be washed or syringed with a lotion, composed of alum, honey, and water."

Blaine thus writes under the head, "Condition of Horses:" "The morbid change which takes place in the stomach and alimentary canal in the state called 'out of condition' is not sufficiently defined; and whether it is a diseased state of structure or of surface, or whether it arises from a vitiation of the secretions of the parts, is not altogether clear. If we argued from some appearances that occur, as the inflamed and swollen state of that cuticular portion of the alimentary canal which lines the mouth, particularly the thickened state of the cuticle of the tongue, we should be led to infer a diseased alteration in the cuticular lining of the canal throughout. I have observed, in two instances which occurred of horses being accidentally killed, that the cuticular portion of the stomach was relaxed, and streaked with marks of inflammation. The secreting villous portion was not without some marks of inflammation also. I should, reasoning analogically, be prompted to believe that the secretions themselves might become vitiated, and that this affection, as well as some others, were purely dyspeptic, and dependent on an altered state of the gastric secretions." Also under the article "Lampas," I find the following: "This tumefaction of the palate is not unfrequent among young horses, and is sometimes occasioned by the later dentitions; and at others is dependent on some derangement of the stomach and alimentary canal. It is very common among young horses when first stabled, from the inflammatory tendency of a change of food, confinement, &c., if it is evidently not the result of teething. Examine the general condition, and the probable circumstance of derangement of the alimentary canal. Are there any appearances of worms? Has there been any recent change of food? Or has the horse been lately much confined? If none of these causes are apparent, it is very probable that some lassitude may be observed, or that the hair, hide, &c. will detect some affection of stomach."

Among other authors, it is alluded to under diseases or affections of the mouth, whether the result of accident or otherwise; among which are paps, barbs, gaggs, washes, lampas, dentition, canker, squirrel-tailed grass, impure vegetables, &c. &c.; and, although last, by no means the most unfrequent, that affection of the throat which I should term a relaxed or ulcerated sore throat, consequent on catarrhal or pneumonic affections, and attendant on which we invariably find a peculiarly unpleasant fetor of the breath which, in pure thrush, is, for the most part, wanting; at least, so far as my observation has gone,

the odour emitted in thrush is very different, and much less offensive.

From the foregoing extracts it will be perceived, that it has been considered by some as a disease, *sui generis*, and by others as owing to heat in the brain and stomach; while others consider it as commencing in the mouth, and extending down to the stomach. The reverse of this is, in my opinion, the case; *it extends from the stomach upwards*.

You will, I am persuaded, concur with me in thinking that some definite term should be given to this affection of the mouth. I am unwilling unnecessarily to add to our increasing nomenclature of disease, but if such an affection has existence (and on that point there can be no doubt), it surely is worthy of some distinguishing appellation; and, for aught I know, "Thrush" is unobjectionable: but let us not confound with it a multitude of other maladies to which it bears not the slightest resemblance.

I will not trespass longer on your time, but proceed to state what I consider constitutes the malady. I am fully persuaded that, except the partial soreness of the gums during dentition, or in consequence of injuries of different kinds, the mouth is never *primarily* affected, but that it is *secondarily* or *sympathetically* so; and that these effects are produced solely by a derangement of that important viscus the stomach, or, to a greater or less extent, the whole alimentary canal; but this will fall under the head of

Causes.—There are many with which I am totally unacquainted; but, allowing the stomach to be an organ of such peculiar and vital importance in the animal economy—that it requires to be attended to more than any other—and that when injured, every part of the system seems to participate in the injury—I come to the conclusion that whatever may produce derangement or disease of this all-important viscus, may produce aptha, although I by no means wish you to infer from this, that I consider it *must necessarily do so*. Many facts come daily before our eyes, in which diseases of other, and very different systems, are connected with or caused by a morbid state of the stomach; I need only mention staggers, amaurosis, surfeit, and chronic cough.

I will, however, speak of that alone which has come under my own immediate knowledge; and from that I am compelled to infer, that among the more immediate causes of thrush, sudden changes of food, and particularly from grass to hard meat (hay and oats), and whether of a good or a bad quality, but given in undue quantity, and the stomach being unprepared for the change, is one of the most frequent causes of thrush. I have seen it occur while the animal was at grass; but in these cases I

have generally traced it to the existence of worms, or to the animal having been over-heated, or, in common parlance, surfeited.

I have often seen it occurring in post and coach horses of all ages; and more particularly when at very high keep. I have also seen it exist in very old poor, and emaciated horses. In these cases I have always been inclined to think that there was *chronic* disease of the stomach, somewhat similar to that described by Mr. Blaine. I have been informed by an intelligent farrier in extensive practice, that he has seen disease of the mouth follow an attack of gastritis.

From having most frequently seen it in young horses, that is from three to five years old, I am inclined to think dentition may have something to do in the production of the soreness of the gums observed in thrush, and causing also an imperfect mastication, and consequent indigestion of the food, and so producing or aggravating the disease.

Symptoms.—The animal appears a little amiss and off his food, but the sympathetic disturbance of the system is generally slight. The pulse is accelerated, but not increased in strength. The coat, if it does not actually *stare*, loses that peculiar glossy or bloomy appearance which is the attendant on perfect health and good condition. The horse is dull and listless; the discharge of saliva is generally considerable, and appears unusually tenacious or ropy, and not unfrequently hanging for a considerable distance from the corners of the mouth. The buccal or lining membrane of the mouth is inflamed, and in a partial or complete state of ulceration, putting on at the commencement a phlegmonous, but, if suffered to proceed, an erysepelatous appearance. The bowels irregular, or more or less costive.

Treatment.—A removal of the causes, and the substitution of any wholesome soft meat,—mashes of sweet bran and oats, stand first in order here. To this should be added a slight dose of purgative medicine, and sometimes a second. Epsom, or Glauber's, or common salt, given in solution, the animal fasting, in the quantities of $\mathfrak{z}\text{iv}$ of the two first or $\mathfrak{z}\text{vi}$ of the last in a pint of water, and this repeated every morning for about a week, are good remedies, and renders any astringent or detergent wash for the mouth unnecessary. When the patient is tolerably quiet, I prefer these latter remedies.

Result.—The causes having been removed, the effects soon cease, and health is restored.

THE VETERINARIAN, MARCH 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE first portion of our Journal is exclusively devoted to matters of practice, or to subjects immediately connected with it. In “the leading article” we allow ourselves a wider range, and are limited only by the interests of our art. If there are any inquiries that more than others occupy our anxious, fearful, delighted attention, they are the actual state of our profession—the obstacles that oppose its onward march—and its slow, irregular, but evidently assured progress towards the station which it ought to occupy.

Confined to a chamber of pain, we were seeking, and then always most successfully, a short interval of ease, by abandoning ourselves, no, not to a series of day-dreams, but to the consideration of a subject which we were pledged to resume; “*the actual state of our profession:*” and we were, in our mind’s eye, giving to our leader for March some form and substance, when a knock at our *sanctum* disturbed us, and a small pamphlet was placed on our table, entitled, “*A Concise Account of Veterinary Surgery, its Schools and Practitioners, for the Benefit of Proprietors of domesticated Animals: by a Veterinary Surgeon. Published by Andrew Rutherglen and Co., Glasgow, and Simpkin and Marshall, London.*” It was a neat modest-looking little work. Price 1s.

It was the very subject on which we had been ruminating. The fire was stirred—the cushioned chair adapted a little more conveniently—and the paper-knife called into exercise. We had not read the whole of the first page before we were convinced that it was the work of a man of talent, and of a zealous and liberal veterinarian; and ere we had skimmed more than a page or two, we determined to make a review of it the subject of our leading article.

The author commences with a faithful sketch of what veterinary surgery now is in the estimation of society generally. “Worse definitions have been constructed than that which a veterinary surgeon gave when he said his profession was ‘that science

which every one thinks he knows so well.' There are few subjects, if any, upon which so many men think themselves qualified to say something. The man who diets or dresses, and the man who rides or merely owns one of these quadrupeds, equally considers his opinion on his maladies as entitled to some respect. Even medical men, who ought to know a great deal better, and are therefore less excusable, will occasionally step into our province, and assume pretensions which do not at all become them."

He properly adds that "these empirical pretensions to veterinary skill are founded solely upon ignorance—they are inconsistent with a knowledge of the present state of the art, of its objects, its practitioners, and the extent and nature of their studies. But few are aware how the subject has been and still is cultivated. Its schools are hardly known to exist, its importance is not recognized—its objects are misunderstood. A little information on these points would, at least among the enlightened and uninterested, dispel much of the confidence which error produces."

He then touches on the scope of veterinary science. "It is a mistake to suppose that it has to do with no animal but the horse; yet it is a mistake which a few worthless veterinarians have encouraged rather than rectified. Ignorance and puppyism are the only two things that ever deter a man from relieving pain. The pitiful greatness that will not relieve a sufferer because he is mean, is itself more contemptible than the animal it despises; and he who withholds his aid from any, can do justice to none." These are noble sentiments, and reflect on our author the highest credit.

He now takes a rapid view of the origin of the veterinary art—the high character it sustained in the early ages of Greece and Rome—its degraded state in the darker ages—and the continued and seemingly inseparable union between the blacksmith and the veterinary surgeon, when that between the apothecary and the barber had been dissolved. This leads him to the establishment of the first modern veterinary school in France, when repeated epidemics had swept away nearly one-half the cattle in most of the states of Europe—the incalculable benefit which had accrued from the establishment of that school—the gradual rise of others

at Copenhagen, Madrid, Vienna, Berlin, Dresden, Leipsic, Prague, Munich, Fribourg, Marbourg, Mayence, Bombay, Hanover, Turin, Naples, Parma, Padua, and, last of all, London.

The history of this last institution is given at considerable length. The author was a student of it—a student of all three of the schools now existing, and therefore competent to furnish an impartial account of each of them. To all that he says of the advantages the St. Pancras school affords, and the good it has done, we yield our cordial assent. “From the College have proceeded all our valued authors, and, with few exceptions, our best practitioners. Its pupils have succeeded, so far as could be expected in so short a time, in rooting out the farrier and the cow-leech, with their absurd and mischievous practices; and they have inculcated a more rational and humane system of managing animals in health. Glanders, farcy, grease, mange, blindness, and a host of other diseases, which used to rage with unrestrained violence,” are, without comparison, more rare; and the beneficial influence of a total change in stable management is every day more apparent.

The defects of the College system of education, at which the author likewise glances, come not within the scope of our present observation.

The Edinburgh Veterinary School comes next under review; but here, although we do not accuse the author of wilful misrepresentation, some unkindly feeling marks the picture which he draws with lines far too harsh, and with shadows too broad and deep. We regret this, because there is enough in other parts of this little *brochure* to convince us that the writer is capable of good and generous feeling, and has the cause of our profession sincerely and warmly at heart. In another edition of his work—and it will soon be called for—we much mistake if this will not be honourably and fully redeemed.

Of the third school, that at the University of London, it becomes us only to say, that he has a little over-rated the personal exertions of the Lecturer. His pupils are now transferred to Mr. Morton's school, in order to learn the medical and chemical properties of the drugs used in veterinary medicines; and, as the author properly observes, it being impossible to run over the struc-

ture and diseases of the horse, cow, sheep, dog, poultry, pigs, &c., in the course of nine months, the lecturer now gives no more of the anatomical structure than is necessary for the right understanding of physiology and disease; and for a complete course of dissections and demonstrations, and, *at no additional expense to his house-pupils*, he refers them to the School of Veterinary Anatomy, so beneficially for the College students established by Mr. Spooner, in the immediate neighbourhood of that institution, since the author of "The Concise Account, &c." was a pupil there. With these exceptions, and also an addition to his charge of ten guineas for every half-year after the first, the account given in this pamphlet is correct. We will also add, that, if we mistake not, the author of this little work carried off the first prize in the year of his attendance at the University School, and that a more attentive pupil we have rarely had, nor one whose good opinion we are more desirous to retain, or who is more capable of becoming an ornament to his profession.

It would naturally be expected, that this writer, after reviewing the veterinary "schools," would not forget the "periodicals," so intimately connected with the improvement and respectability of the profession. He has not forgotten them; but what degree of justice he has rendered them, our readers shall judge. "It is now nearly seven years since two monthly periodicals, or veterinary journals, simultaneously started into existence. Both began their career by abusing the College most furiously. They said much that was quite true, and they exposed much that well deserved exposure; but, at the same time, they were unreasonable, and it must be confessed, somewhat malignant. They demanded cures where none could be effected--sometimes blamed those who were not at fault; and, forgetting how little power mere words have upon men in office, the reformers raved incessantly, and seemed to expect that abuses should be corrected the moment they were brought to light, and that innovation should have taken place the instant it was suggested. The Veterinarian still survives. It has been a radical from its birth; but it has sustained its hostility to the College with philosophic dignity worthy of its avowed objects. It has now subsided into comparative quietness, at least, we are not so frequently annoyed

by articles which were poured out one after another before any had time to operate. It has effected some reformation; it has, for one thing, compelled the student to prolong his residence at school. Its work, however, will be more apparent by and by; advantage will probably be taken of quietness to effect changes which obstinacy resisted, more because it disliked dictation than because it loved things as they were."

We have given the accusation at length, and we might be fairly content to leave the decision with the jury—our readers. One word or two, however, we must say. To the charge of being reformers—liberal reformers, if our readers please—or rather, a term once used by our friend Morton, "renovators,"—we plead guilty. To that of being radicals we demur, if by radical we are to understand that which the conduct of too many of the present day would prove to be the recognized meaning of the term, a man determined to sweep away all abuses at all risks. To the charge of being malignant, we indignantly plead not guilty. In the first regular exposé of the objects we had in view (May 1828) we complained of the insufficiency of the two professors appointed to a class of 14, when that class had increased to 70 or 80. We complained of the lack of sufficient anatomical instruction, and the total want of chemical and pharmaceutical—the visits, few and far between, of the clinical teacher—the negligent mode in which the duties of the dresser were performed—the utter ignorance of all the manipulations of the forge—and, chief of all, we murmured at the shamefully inadequate period allotted to the education of the pupil, and the absurd and unjust construction of the medical examining committee: and we avowed that "we would urge the repeal of these, by close yet fair, by strong yet legitimate argument; by that which should convince the understanding, but not rankle in the heart; by no attack on private character—no imputation of unworthy motives—no foul misrepresentation—no vile system of ungentleman-like annoyance." Is there any malignancy in this?

More than a twelvemonth ago, when we had been teased and worried, and abused, by many a correspondent, on account of our "quietness" (Jan. 1834, p. 48) our language is this: "Much progress has been made—as much as the most sanguine

among us could have expected; and one fact every page of history confirms, that when concessions have begun to be made to the demands of increasing knowledge, they will finally be bounded by the claims of justice and truth alone. In which way, then, could we best promote the cause of our profession?—by continual agitation? by exciting on the one hand unreasonable demands, and on the other unreasonable and obstinate opposition? or by endeavouring to unite our brethren of every party in the pursuit of science? If veterinary knowledge continues to progress, veterinary instruction must keep pace with the improvement of the times.” Is there any “raving incessantly” here—any “expectation that abuses were to be corrected the moment they were brought to light”—any “annoyance by articles poured out, one after another, before any had time to operate”—any “*malignancy*” here?

And, once more, when, at the commencement of the year 1833, having added two valued names to our list of Editors (vol. vi, p. 101), we felt that there was a duty which, in point of courtesy, as well as in accordance with our own inclinations, and the interest of our work, and the advantage of the profession, we had to perform,—as a proof of our feeling that we had arrived at that desired point when controversy (ill-tempered controversy) might begin to cease among us; and, as the most satisfactory demonstration of our sincerity, an offer was made to include the name of Professor Coleman in our list of Editors. Was there annoyance, malignancy here?

We may, in the language of our friend, have endeavoured to “maintain our *course*”—we disclaim the term “*hostility*”—“with philosophic dignity, worthy of our avowed object;” but we have never been malignant.

We may have expressed, as our author has done, strong feeling in strong language. We may have approached to the words that burn, with which he characterizes the conduct of the examiners (see p. 13); but where, from the first exposé to the present number, have we been “*malignant*?”

The author confesses that we have succeeded in maintaining our philosophic dignity, and we thank him for this confession. We will not press him to reconcile this with other parts of his

charge. And, now, we are not unwilling to try what “quietness” will do, and see whether “advantage will be taken to effect changes which obstinacy resisted, more because it disliked dictation than because it loved things as they were.” We will be quiet, but we shall not slumber at our post. We will be quiet, unless *we* are “malignantly” attacked.

We also thank our author for the acknowledgment of one reformation which The Veterinarian—or, rather, the wish of the profession, expressed through the medium of The Veterinarian—has effected,—the “compelling the student to prolong his residence at school.” Why! this is the most important of all the objects at which we aimed—it is the only foundation on which the improvement and future triumph of our art can be built—and, if this were all, The Veterinarian would not be forgotten in times long to come. But, says our friend, “its work will be more apparent by and by.” We had thought that he could have added a little more now—but we are content to wait.

We are glad to have done with controversy, and especially with an old pupil;—a relation this which the instructor who throws himself into his work does not soon forget. We shall meet again on pleasanter ground, and he will do us no injustice.

He proceeds from the veterinary schools and periodicals to a consideration of veterinary practitioners as they are generally found. We will leave our readers to follow him in this new, and interesting, and dangerous track; and we can assure them, that they will derive considerable amusement and instruction too. We will give one extract more,—the contrast between the veterinarian of former days, and too frequently of the present time, who founds his pretensions to skill on his *great practice and long experience*, and the surgeon who has laboured hard to ground himself in those principles of his profession which alone can, consistently with his own reputation and the safety of his patient, guide his proceedings,—the falsely called *practical man*, and the more falsely called *man of theory*. We cordially recommend this little work to the perusal of every one connected with the veterinary profession, and to every proprietor of domesticated animals.

“ Theory is just an explanation of, or an attempt to explain, some circumstances which we know or think it important to understand. Practice gives us dexterity in doing a thing. Theory or reasoning teaches us when to perform an operation, and when to let it alone. Does not the farrier theorize? He certainly does; we shall not be so unjust to him as he is himself. He sometimes, though, it must be confessed, not often, makes an attempt to explain what he sees or does. If your horse be too fat, he is full of humours, and he must have three doses of physic. Three is the proper number, and he must neither have more nor less. The first is to stir up the humours, the second to set them afloat, and the third to carry them all off.

“ To hear the pretender boast of his experience and practice, and his aversion to theory, one would imagine that veterinary medicine was merely a piece of handicraft, only to be acquired after a great many fruitless efforts, and that theory was something which rendered perfection impossible. We have but few very difficult operations to undertake; none but what a skilful anatomist may perform as well, and very nearly as quickly and easily, at the first as at the fiftieth attempt. But the main thing is, not so much to do, as to know what should and what should not be done. Any man may bleed a horse, but only a few know when and why he should or should not be bled. The great experience upon which the empiric lays so much stress may all be reduced into very little compass. It is a plausible excuse for high pretensions only to those who have never analyzed it.

“ The knowledge of the educated and the uneducated man varies widely, both in the mode in which it is acquired and in its extent. The latter begins his career destitute of all information, and with no assistance save what he thinks himself sure of in the possession of some barbarous recipes and traditional rules handed from age to age. He goes on trying one thing after another, and, at length, after sacrificing a multitude of victims, he discovers that one thing kills and another cures, and another does neither. He does not get even this little knowledge till he has done immense damage.

“ The employer, of course, must pay for all this—must not only lose his property, but pay the man for destroying it. This is the course of the farrier’s great experience, which, great as it is, he would find some difficulty in filling a sheet of paper by recording.

“ The educated practitioner must pay for his experience or knowledge out of his own pocket. In the course of his studies he learns, or ought to learn, both the principles and practice of his profession, which, if they did no more, would at least prevent him from committing any very grievous blunder. But, besides,

he imbibes the experience, not of one man only, but of multitudes of those who have begun their career under the most auspicious circumstances—have spent their lives in ardent and well-directed efforts to improve their profession—and who have ultimately bequeathed the result of their labours to posterity. And when the student has appropriated to himself all that is valuable, he may consider himself fortunate if, at the close of his career, he can reflect that he has added something to the common stock.”—Y.

Veterinary Affairs.

THE VETERINARY COLLEGE.

GENERALLY speaking, a controversial field is not the place on which a young man, either at college, or having just left it and become a member of the profession, should be eager to appear; but there may be circumstances in which it is a duty for him to step forward in the defence of truth and justice.

A letter was addressed to the Editors last month, by a gentleman who signs himself “A Student,” but which is so contrary to truth and justice, that I feel called upon to correct his misrepresentations, especially in behalf of those whom I had the honour of knowing, and who are immediately concerned in the transaction. This is a sufficient excuse for my interference. And the first thing that I shall do will be, to prove that the representations put forth by “A Student” are contrary to truth; and, secondly, that they are contrary to justice.

First, that they are contrary to truth.

“A Student,” after having stated his inducement to write to you, says, that he sends “*a copy of a few words of an address of Professor Coleman, which he delivered in the theatre, on the 3d of December, respecting those young men who presented themselves for examination on the previous day.*”

To the latter part of this supposed address I entreat the reader’s serious attention, for it is that which I have now particularly to do with, viz., “For, I assure you, that Messrs. Read, Gibbs, Garrett, Molyneux, &c., have done credit to this institution, and I hope they will become ornaments of the profession.”

Now, is this anonymous communication contrary to truth? Yes, it is; and in two particulars:—first, because Professor Coleman *never did mention, nor does he ever mention, names*: he always expresses himself in general terms. Therefore “A Student’s” information is incorrect in that point.

It is incorrect, secondly, in another particular; for supposing, for a moment, that Professor Coleman had mentioned names, is it likely that he would, as “A Student” has, introduced that

of a gentleman who had not passed his examination, and omitted that of another who had passed it? He would have done no such thing: it is preposterous to think that he would. This is sufficient, I think, to establish my first point, that "A Student's" communication is contrary to truth.

I now pass on to the second, viz., that it is contrary to justice. Is that justice, which omits one student's name and inserts that of another, to the detriment of a deserving young man? What could have been the object of "A Student" to insert one gentleman's name that had not passed his examination, and to leave out that of a gentleman who was inferior in talent to none that passed along with him? It could not have been either the love of truth or justice. What was it, then? It was, from beginning to end, a desire to misrepresent that prompted "A Student" to send this communication to THE VETERINARIAN.

Having now, I think, proved that the assertions of "A Student" are contrary to truth and justice, I will state what parts of his paper are correct, and what are not. That Professor Coleman did address the students the day after the examination, is correct; that he did pay the compliment to the gentlemen stated by "A Student" (so far as it does not refer to the names) is likewise correct;—that he mentioned Messrs. Read, Gibbs, Garrett, and Molyneux, is *not* correct: Professor Coleman mentioned *no names*.

The facts are these:—Messrs. Garrett, Molyneux, *Parkes*, and Gibbs, passed their examination at the time "A Student" states. A week afterwards there was another examination, at which Messrs. *Read*, Taylor, and Cade, obtained their diplomas; and it was between the two examinations, and when Mr. Read had not passed, that Professor Coleman made his address, expressing himself in general terms, and making no mention of names.

Such are the simple facts which "A Student" has misrepresented; and he has neither acted with truth nor justice towards those who are immediately concerned in the transaction.

But there is another part of his letter which I shall not pass over in silence. That the class is composed of industrious young men is correct; but as regards the purchase of subjects, &c., every pupil is at liberty to buy his own subject: it is only the subjects for the use of *demonstration* that are bought at the *joint expense* of the pupils.

As to the satisfaction that it produces, I know not. If I may be allowed to express my own feeling on the subject, I was perfectly satisfied, and I think it was much more approved of than the committee of pupils last season.

As "A Student's" letter has been proved to be wrong in one part, so, I think, he is wrong in this. That there are errors, not

in one, but in every department of the College, I am ready to admit.

“Whoever thinks a faultless piece to see,
Thinks what ne’er was, nor is, nor e’er shall be.
But, if the means be just, the conduct true,
Applause, in spite of trivial faults, is due.”

But I do dislike to hear assertions made which have no object of reform in view, but are put forth merely for the purpose of misrepresentation.

I am assured that the Editors will allow these remarks a place in their valuable Journal.

THOMAS WALTON MAYER, V.S..

London, February 13, 1835.

[Mr. Mayer has come forward in a manly and honourable way. To the plea of “truth and justice” the pages of THE VETERINARIAN will never be closed; but all future communications on this, and on every other controversial subject, must bear the name of the writer.—EDIT.]

Veterinary Jurisprudence.

HIRING HORSES, AND ACCIDENTS OCCURRING DURING THE PERIOD OF HIRING.

WE have had opportunity of putting our readers in possession of the way in which legal questions on these, and other horse and veterinary matters, are disposed of in Scotland; and we are now enabled, by laying before them the following documents, to shew how the same things are managed in France.

Two horses were hired at Paris on the 6th of June 1833, and taken into the country. On the 29th of August following one of them broke the leg of the other. A veterinary surgeon, at the requisition of the mayor of the place, examined the injured horse, and ordered him to be destroyed in the absence of the owner. Afterwards a suit arose between the parties. It was carried before the Tribunal of the first instance of the Department of the Seine, which, before it pronounced its judgment, nominated, as was the custom in these cases, an expert veterinary surgeon, and charged him to report—

What was the usual mode of hiring?

Whether the hirer was liable for the accident?

And, if so, what was the value of the horse that was destroyed?

M. Bouley, jun., was appointed to examine into and report on these questions. The following is the report which he sent to the Tribunal:—

Paris, January 24th, 1834.

To MM. the President and Judges of the 5th Chamber of Tribunal of the first instance of the Department of the Seine.

Gentlemen,

By your decree of 8th of December last, relating to a suit between M. (le Sieur) Doga, letter of horses and carriages, residing in Paris, No. 36, Neuve des Methurins-street, plaintiff (*re-conventionnellement demandeur*), on the one part, and M. Peteau, freeholder (*proprietaire*), living also at Paris, No. 18, Boulevard des Italiens, defendant, on the other part, you have thought proper, in order to the better understanding of the facts of the case, and before you give judgment, to constitute me arbitrator (*arbitre rapporteur*) in this affair, and have charged me in this quality to bring the parties before me; and, having heard them and other persons, as well at Paris as at Mormaire, to make all farther inquiries that I should judge proper, and to report to you my opinion on the questions which you have submitted to me; agreeably to your decree, I have heard the parties many times, both separately and face to face, and also many other witnesses which they have brought before me; and I proceed to report as succinctly as possible the principal facts of the case, and the information which I have obtained; and, after that, I shall have the honour to submit to you my opinion on the questions which you have submitted to me.

Facts.

On the 6th of June last, M. Peteau hired for his use from M. Doga two carriage horses, which he took on the following day, the 7th, to his country residence. In the night of the 28th and 29th of the following August, one of these horses had his leg broken by his comrade. M. Peteau, after having stated the accident before the mayor of the commune, destroyed the animal in the absence of the owner, and of which he did not complain. On the 18th of the ensuing September, the horse which remained was brought back to M. Doga, who received him without objection. Some days afterwards disputes arise between the parties, not only with regard to the price of the dead horse, but the rate of the hiring, which M. Doga asserts to be for the express sum of 600 francs for six months, but which M. Peteau, on the contrary, maintains was agreed to be at the rate of 2 francs 50 cents per day and per horse. Not being able to agree respecting this, M. Peteau, on the 23d of October, offered M. Doga, through the medium of M. Carret, officer of the court—1st, 300 francs as an indemnity for the loss of the horse; 2d, 210 francs for the hire of the aforesaid animal from the 6th of June to the 29th August, the day of his death; and, 3d, 260 francs

for the hire of the second horse from the 6th of June to the 18th of September, the day on which he was returned to Doga; in the whole, 770 francs.

These offers having been refused, as under all the circumstances insufficient, Peteau, on the 26th of October last, deposited in court the sum offered; and on the 28th of the same month he cited Doga to appear before the court, to see the offers which had been made to him declared good and available. The cause was heard on the 23d of November, when Doga demanded, by his advocate, that the offers that had been made should be declared insufficient and null, and that Peteau should be condemned to pay him 2,100 francs; namely, 600 francs for the hire of the two horses, and 1,500 francs as an indemnity for the loss of one of the horses, and the consequences resulting from that loss. Peteau replied on the 4th of December by a prayer, that the court would pronounce his offers good and equitable, and, on account of them, would release him from the suit of Doga.

Such is in few words, gentlemen, the state of the case which you have thought proper to submit to my arbitration, and requesting me to give you my opinion on the three following questions—1st, Whether the hire of the horses, with regard to which the present action was brought, was at so much per day, or for four months, at a fixed price? 2d, Whether Peteau is responsible for the accident which happened to the horse, the value of which is claimed? And, 3d, What was the value of that horse?

The better to give an answer to these questions, you have authorized me to state, 1st, What is the usage relating to the hiring of horses? 2d, To examine the surviving horse; and, 3d, To receive evidence from the parties, and from other persons, as well at Paris as at the country-seat of Peteau, where the accident occurred. I shall now have the honour of laying before you the documents I have collected on those points.

The point of Law.

Ought Peteau to pay 600 francs for the hire of the horses for four months, or at the rate of two and a half francs per day and per horse?

The loss of the horse; should the hirer or the owner be responsible?

What was the value of the animal?

Examinations.

Doga, whom I first examined, said that he could not accede to the offers of Peteau, because they were far less than the sum to which he was entitled; that he had let his horses not by the

day, but by the month, at the rate of 150 francs for the two, Peteau being chargeable with the keep and care of them, and with the express condition that he should keep them during the *dead season*, that is until the 1st of October, when the letters of horses can again easily dispose of them at Paris; and that without this promise he would not have let them at so low a price. He added, that, when a hired horse was returned in the course of the month, and especially after the 15th day, usage had established that the hirer should pay for the whole month; or, if he preferred it, according to the number of days that had elapsed since the first of the month, at the rate of 6 francs per day, and not calculating according to the monthly hiring; that, according to this principle, universally adopted in these transactions, Peteau was indebted to him the hire of both the horses, or at least of the horse that survived, because he had not returned him until the 18th. Doga added, that, as to the indemnity of 300 francs that had been offered to him on account of the loss of the horse that had had its leg broken, it was so little, compared with the actual value of the animal, that he was compelled to reject it; that the horse was considerably the better of the two; and that, some days before the letting of them to Peteau, he had refused 2,200 francs for the pair; and that consequently the horse that died was worth at least 1,100 francs; but that, being willing to bear a portion of the loss, he had reduced his claim to 800 francs, and he trusted that the court could not decree a less sum than that. In confirmation of his statement respecting the value of the horses, he begged permission to call two witnesses.

1. M. Meslier, also letter of horses and carriages, living at No. 37, Faubourg-street, Honoré-street, who affirmed that he recollected the horse of which Peteau had spoken, as making one of a pair of horses belonging to Doga which he had been bargaining about in the latter part of May last, and which then stood in Paix-street. He added, that, after having tried these horses, he had offered 2,200 francs for them; but that Doga refused that sum, and would not take less than 2,400 francs.

2. M. Giraud, veterinary surgeon, living at No. 30, Faubourg-street, Honoré-street, deposed, that his employer, Meslier, had consulted him about the end of May, as to the purchase of a pair of horses which Doga had to sell; that he had examined them, and advised Meslier to purchase them; that, privately, he had advised Meslier not to give more than the 2,200 francs which he had offered, that sum appearing to him more than they were worth.

Having, then, been shewn the horse which Peteau had sent back, he said that he perfectly recollected him as one of the two horses that he had examined. Then, being examined by Meslier,

as to the comparative value of the two horses, he said, that they were both good horses, but that his memory would not sufficiently serve him to say which was the better horse.

M. Peteau stated, that he had, in fact, hired the two horses at the rate of 150 francs per month, but that he had never engaged to keep them four months, as Doga had asserted; but, on the contrary, he conceived that he might have returned them whenever he thought proper. He further said, that he did not conceive that he could be forced to pay the hire during the whole of the month of September, for one horse had been rendered useless from the 29th of August—his leg having been broken by the other; and that he thought that he could only be compelled to pay the hire up to the day that he returned the surviving horse. He added, that it appeared to him strange that Doga should demand an indemnity of 800 francs for a worn-out and mangy horse, which the veterinary surgeon at Montfort l'Amaury had valued at 200 francs, as the certificate which he now delivered would prove; and, beside, that Doga could not conscientiously demand more to-day than he had asked a few days after the accident, when he limited his claim to 500 francs, and which he offered to prove by producing M. Lefebvre, 14, Provence-street, who had declared that, some days after the accident, he had been charged by Peteau, his father, to offer Doga 300 francs as an indemnity; but that he then demanded 500 francs in order to settle the dispute.

Doga replied, that, in despite of the assertions of Peteau, he persisted in his first deposition—that the certificate of the veterinary surgeon at Montfort l'Amaury was worth nothing in his opinion, because it was not given until the 27th of November; while the facts which was stated passed in June; that he knew not whether, through want of care, his horse had become mangy in the stables of Peteau, but that, when he left Paris he had not a blemish about him, which, if it were needed, the veterinary surgeon, Giraud, would certify. Finally, that Lefebvre was deceived in attesting that he had only demanded 500 francs in the first instance; whereas, on the contrary, he had said that, if that sum had been offered, he would have refused it.

Lefebvre, being examined, persisted in the truth of what his father had stated, notwithstanding the denial of it by Doga; and Giraud stated, that, at the time of his examination of these horses, he did not perceive the slightest cutaneous disease; and that, if he had observed it, he should have opposed the purchase of the horses, rather than recommended it.

These examinations being concluded, I proceeded to examine the horse which Doga brought, and which Peteau recognized as that which he had returned on the 18th of September. He

was about twelve years old; he had marks of work about his limbs, and also had spavins, but he was yet fully equal to plenty of work, and was worth about 600 francs.

Anxious fully to discharge the duty you had confided to me, I endeavoured to obtain satisfactory information respecting the usages relating to the hiring of horses; and the result is, that Doga has correctly stated the arrangements usually adopted; namely, that, when a horse is hired by the month, he cannot be returned to the owner, and especially after the 15th, without paying either the entire month, or for the days that have elapsed since the 1st of the month, at the rate of six francs per day. It appears, however, that this usage is sometimes departed from, and especially where persons are constantly served; and, in that case, the supplementary days are added to the usual monthly price.

Finally, gentlemen, I terminated my inquiries by examining the books of Doga, that I might assure myself what were his arrangements with Peteau. It appeared from them, that, on the 6th of June, he had let two horses to Peteau, at the rate of 150 francs per month; but nothing was said of Peteau's having engaged to keep them for four or five months, as he affirmed to be the case. At the same time it is right to state, that the lettings to all the employers of Doga are posted in the same way, "by the month," although, with some of them, the transaction was evidently by the year.

Deliberation.

Considering on the one part, 1st, That it results from the deposition of both parties, and on examination of the books of the plaintiff, that on the 6th of June last Peteau hired from Doga a pair of carriage horses, at the rate of 150 francs per month;

2d, That nothing indicates, as Doga pretends, that Peteau engaged to keep them four or five months;

3d, That, when hired horses are returned in the middle of a month, it is usual to pay the hire of the whole month, or, if it is preferred, that of the days that have expired from the first of the month, and at the usual rate of daily hiring;

Considering, on the other hand, that Peteau, when hiring this pair of horses from Doga, engaged to keep them, and have them taken care of by his own coachman, and that, consequently, the owner had not any one about the animals who represented him, or could take care of his interests;

Considering, finally, 1st, That, on one side, it results from a certificate delivered by M. Jacquinot, veterinary surgeon at Montfort l'Amaury, that the horse that had its leg broken was not worth more than 200 francs;

2d, That on the other side, M. Giraud, another veterinary surgeon, deposes that this animal was one of a pair of horses for which one of his employers had offered 2200 francs ;

3d, That depositions so opposite could not possibly guide the opinion of the arbitrator, and that, in such a state of things, the examination of the remaining horse could alone enable him to approximate to the value of that which had been destroyed ;

Conclusions.

I apprehend, 1st, that the hiring of the two horses was by the month, at the rate of 150 francs, and not by the day ; and that, in conformity with usage, Peteau ought to pay the hire of the two horses until the 31st of August, and of the surviving one until the 30th of September.

2d, That the loss of the horse with the broken leg ought to be entirely borne by Peteau, seeing that the accident occurred while the horse was under his care.

3d, That that animal, supposing him like his fellow, was worth about 600 francs. I think that I ought to observe, in conclusion, that horses belonging to the same equipage (*appareillés*) are not generally considered so valuable, by about one-fifth, as when they are taken separately ; perhaps, therefore, it will be just, on this consideration, to allow Doga a somewhat greater sum than 600 francs.

These, gentlemen, are the opinions which I have the honour to submit to your ulterior deliberation and decision.

I have the honour, &c.

BOULEY.

The Tribunal decided according to the recommendation of M. Bouley.

Récueil.

ERRATUM.

Mr. Cartwright's communication on Abscess of the Spinal Marrow, in our last number, for " Lumbar Vertebrae," read " Cervical Vertebrae."

TO CORRESPONDENTS.

Communications have been received from Messrs. CHEETHAM, CORBET, and RAWLINGS, which shall be inserted.—Will our friends favour us with their contributions as early as convenient in the month ?

We will endeavour to comply with the request of " A Subscriber ;" yet if the document to which he refers is incorrect, what are we to do ?

Mr. COLEMAN's bust will be presented to him in the Theatre of the Veterinary College, on Tuesday, the 10th instant, at one o'clock ; and his friends will dine together at Freemasons' Hall, on the same day, at six o'clock precisely. Two days' previous notice of attendance at the dinner is requested to be sent (post paid) to the Secretary of the Committee, Mr. Morton, at the College. Tickets One Guinea.



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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLVII.

Tetanus.—Theory of the Communication of Nervous Influence.—Symptoms of Tetanus.—Progress of the Disease.—Post-mortem Appearances.

Sketch of the Nervous System.—I HAVE described the spinal chord as divided by a mesian line through its whole extent; and each side again divisible into three columns, and each of these devoted to a distinct and separate function. The central columns on the inferior surface (the anterior one in the human being) are connected with voluntary motion—the central columns on the superior (posterior) surface, with sensation, and the lateral column on either side with the movements and peculiar sensibility of organic life. The first two we have traced to the brain: the mandate of the will or the nervous influence is conveyed by the inferior columns from the brain to the various organs of voluntary motion, and so we move and act amidst the objects that surround us. The impressions that are made on the extreme fibrils of other nerves are conveyed to the common sensorium by means of the superior columns, and thus we have sensation, pleasurable or painful. The lateral column, however, is a system of itself, and not of cerebral origin; connected with, influenced by, and influencing, aiding, and assisting, the other two, as its very situation would lead us to suspect; but independent of both: possessing properties similar to both, yet devoted to the functions of organic life.

There are certain classes of diseases principally referrible to one or the other of these columns. I will consider each in the order in which I have mentioned them.

I begin with those of the central column of the inferior surface and connected with voluntary motion.

Theory of the Communication of Nervous Influence.—You will find a beautiful explanation of the flow or communication of nervous influence to the various parts of the system, in that admirable work by Dr. Mason Good, his “Study of Medicine;” a work that should find a place in your libraries, as yielding to none in a clear, natural, and interesting explication of the principles of human pathology, and physiology too. I will use his own language:—“We have had frequent occasions of shewing that the nervous power which supplies the muscular fibres is communicated, not strictly speaking in a continuous tenour, but in minute and successive jets; so that the course of it is alternately broken and renewed by a series of fine and imperceptible oscillations. In a state of health and vigour this succession of influx and pause is perfectly regular and uniform; and hence whatever movements result from it will partake of the same uniformity, and appear to be one continued line of action instead of a successive series. But as soon as ever the harmonious alternation through which the nervous power is thus supplied is interfered with, the oscillations become manifest; the apparently uniform current is diverted into a tremulous undulation; and the muscular exertion to which it gives rise, instead of being seemingly one and undivided, is sensibly multiplied into hundreds.”

Adopted to illustrate the Diseases of the Spinal Chord.—I would scarcely go so far as this excellent writer has done, when he says that “the truth of this theory is shewn or proved;” but there are so many circumstances which give an air of probability to it, such as the firmness of the sound and healthy limb—the trembling of the hand fatigued by labour—the shaking palsy of old age—the agitation of every limb when the animal is violently excited—and, above all, this theory furnishes me with so intelligible an illustration of the diseases of the nervous system, that I shall adopt it, for the present purpose at least.

Illustration of the Diseases of the Spinal Chord.—“In health, the succession of influx and pause is perfectly regular and uniform, and the motions resulting from it appear to be one continued line of action,” energetic in proportion to the degree of nervous influence bestowed; but I can conceive of some diseased state of the sensorial system in which the nervous energy shall rush on with unusual violence and without pause, and in defiance of the will. If one limb only is affected, we have rigid *spasm* of that limb; if it is a general affection, we have *tetanus*. If the pauses or relaxations are too protracted, then, from the accumulation of nervous power, the next jet has more than usual strength, and we have *shivering* and *trembling*. If the protraction is more considerable, and confined to one set of muscles, we

have *chorea*. If it is universal, and the suspensions lengthened, yet the expenditure of animal power increased, we have *epilepsy*; and if the supply is altogether suspended, we have *palsy*.

Farther Illustration.—These diseases are all connected together—they have a tendency to run into each other. Chorea in the dog is a frequent precursor of fits. The spasmodic affection of one limb is speedily propagated to the neighbouring ones, and gradually involves the whole frame. Fits either become less frequent and violent, and terminate in chorea; or they increase in the rapidity with which they succeed to each other, and the vital power is at length nearly or quite expended, and partial or total palsy succeeds.

Theory of Tetanus.—The disease which will occupy our attention this evening is TETANUS, or, as it is commonly called, LOCKED-JAW; and so termed, because the forcible closing of the mouth is one of the earliest and most prominent, although not the invariable, symptom of tetanus. It is constant spasm of the voluntary muscles, and particularly those of the jaw, the neck, and the spine. The old farriers used to call it “Stag Evil;” whether from its being supposed, but I think erroneously, to be a disease to which the stag is very subject,—or from the well-known fact, that when the stag is nearly hunted down he takes refuge, if he can, in some pond of water, where he stands at bay, and from which he is said to become stiff and tetanic, from the sudden effect of the cold,—or whether because the tetanic horse carries his head in somewhat the same manner that a stag usually does—I will not now inquire.

Symptoms.—Its approach is usually slow and insidious—at least it is so in the estimation and observation of the groom. The horse is dull—unwilling to move—he does not feed well—he quids his hay and gulps his water. The groom attributes all this to sore throat; and when he begins to be alarmed by its continuance, and by the rapid manner in which the horse loses flesh, even from the very beginning, he sends for the veterinary surgeon. The mischief is all done now, nine times out of ten.

Caution as to supposed Sore Throat.—The veterinary surgeon will never examine, or ought never to examine, a horse with supposed sore throat, without ascertaining the state of the muscles of the jaw: and yet I do recollect one; he was a young practitioner—so you may suppose; but he was a clever young man notwithstanding,—who saw the quidding and the gulping, and the difficulty of opening the mouth, but was bamboozled by what the groom forced upon him of the soreness of the throat, and the foulness of the breath, and the enlargement of the parotid glands,—and lost for ever the golden opportunity. Let this be a rule with you—one without exception—in every

case of supposed catarrh or influenza, or, in fact, disease of almost every kind, introduce a finger or two into the mouth, and move them about there, not only to ascertain its temperature, but the action of the lower jaw; and if that is limited, satisfy yourselves whether this arises from the pain which the motion of it occasions, or from actual inability to move the jaw.

Continuation of Symptoms.—There will now, or ere this, be stiffness of the neck; and, on passing the hand down it, the muscles will be prominent, distinct, hard, knotty, and unyielding. There is difficulty in bringing the head round, and still greater difficulty in bending it; for the extensors of the head are in health more powerful than the flexors, having to assist in supporting the weight of the head. The difference of power in the two, therefore, shews itself now by the very peculiar manner in which the muzzle is thrown out and forward, and permanently retained there. The eye is sunk—the retractor muscle acts among the rest, and the eye is drawn deep within the socket; and in consequence of this, the fatty matter behind the eye is pressed forward, and the membrana nictitans is protruded, and there is an appearance of strabismus, or squinting. I confess that I have never seen what the erudite Mr. John Hinds describes:—"The eyes of the animal were turned back, shewing the nerve which retained the ball in position in a very disgusting manner." I had supposed that the retractor muscle so completely surrounded the optic nerve as to render this impossible, especially under the state of spasmodic contraction in which this disease places it; but Mr. Hinds' book contains some very strange things.

The ears are erect, pointed forward, and immoveable; if you speak to the horse, or threaten to strike him, they change not their position. Considering the beautiful play of the ear in the horse, when in health, and the kind of conversation which he can maintain by means of it, there is scarcely a more characteristic symptom of tetanus than this immobility of the ear. The nostril is expanded to the utmost; and there is little or no play of its alæ, as in hurried or even natural breathing. The breathing itself is usually accelerated, but not always so; I have known it rendered considerably slower; but it is always laborious, for the aid of some of the auxiliary voluntary muscles is withdrawn, and the rest have more to do. The pulse will give little indication of the severity of the disease. I have known it in a manner unaffected, when the spasmodic action was fully established. It would rise, and rapidly, when I approached the horse and offered to touch him; but after I had stood by him a minute or two, it would quiet down almost to its natural standard. After awhile, however, the heart begins to sympathize with the excitation of the animal system, and the pulse

increases in frequency and force, until the animal becomes debilitated, and then it beats yet quicker and quicker, but diminishes in power, and gradually flutters and dies away. I have counted 130 and 140 pulsations in a minute towards the close of tetanus; yet Mr. John Hinds tells us that it may increase to 60 when the disease is at its height, and becomes slower as the exhaustion of the animal increases, and at length beats not more than 40 times in a minute. When doctors disagree, why you, gentlemen, must judge for yourselves.

The countenance is eager, anxious, haggard: it is piteous to behold, and it tells plainly enough how much the animal suffers.

The Progress of the Disease.—The stiffness now gradually extends to the back. If the horse is in a narrow stall, it is impossible to turn him; and even with room and scope enough, he turns altogether like a deal board. The extremities begin to participate in the spasm—the hinder ones first, and principally; but never to the extent to which it exists in the neck and back. The horse stands with his hind legs straddling apart in a very singular way. We see something resembling this in affections of the kidneys, but it is not so marked as here; and when the animal is moved, the gait is still straddling to a remarkable degree: the whole of the limb moves, or rather is dragged on, together; and anxious care is taken that no joint shall be flexed more than can possibly be helped. The fore limbs have a singular appearance: they are as stiff as they can be, but stretched forward and straddling; they have been very aptly compared to the legs of a form. Very soon after this, the abdominal muscles are plainly involved; the panniculus carnosus contracts with all its might, and there is a degree of hide-bound and *tucking-up* of the belly which is seen under no other circumstances. The tail becomes in constant motion from the alternate action of the elevators and depressors.

Farther Progress.—The disease being confirmed, and having endured three or four days, the respiration becomes rapidly quickened and laborious. The pulse also, at first slightly affected, becomes quick, and small, and irregular. Constipation, and to an almost insurmountable degree, now appears. The abdominal muscles were not involved at first, and during some days the bowels retained much of their usual action, and responded, but perhaps not quite so readily as before, to the stimulus of physic; but when the aid of the abdominal muscles is lost, a very great degree of constipation must ensue.

Later Stage.—The spasm continues to extend, and to become more violent. The motion of the whole frame is lost, and the horse stands fixed in the unnatural posture he had assumed.

The countenance becomes wilder, and still more haggard: its expression can never be effaced from the recollection of him who cares about the feelings of a brute. Think of violent cramp of a single muscle or set of muscles—it makes the stoutest of us cry out; and then imagine this torture to spread over the whole frame, and to continue with little respite from day to day and week to week. True, when you approach and touch him, he moves not—he scarcely shrinks—but the sudden acceleration of the pulse tells you what he feels and fears. Still, I doubt whether the torture of our patient, or the violence of the spasm, is equal to that endured by the human being. We have no account of any bones being broken by the force of the muscular contraction: there are some cases of this in the records of human medicine, and particularly of one man, both whose thigh bones were broken by the violent contraction of the flexor muscles during a momentary remission of the extensors. The horse, in proportion to his bulk of muscle, has not the energy and power of the human being, and certainly he has not the sensibility. The human patient is generally worn out in a few hours—the horse will labour under the disease for as many days.

The Nature of the Spasm.—Tetanus, then, is spasm of the whole frame—not merely of one set of muscles, but of their antagonists also; the flexors and the extensors are equally affected and fixed. The fixidity of the animal is the effect of opposed and dreadful muscular contraction. It belongs to the motor column only—the sensibility is unimpaired; perhaps, it is heightened; or if not, the compression and the lesion of so many sensitive fibrils by the forcible contraction of the muscles, are fully sufficient to account for all the torture that the animal experiences. The organic system is even to the last scarcely involved—the horse would eat, if he could—he tries to suck up some moisture from his mash, and the avidity with which he lends himself as well as he can to assist in the administering of a little gruel, these things tell us that the feelings of hunger and thirst remain unimpaired. Digestion in the mean time goes on; and if the horse experiences difficulty in voiding his urine, it is because he has lost the aid of certain auxiliary muscles of voluntary power; or if the bowels are constipated, it is because the whole abdomen is compressed by the spasmodic constriction of its parietes, and no room is left for the peristaltic motion of the bowels to be effected. Still to the last there is appetite.

Duration.—If the disease terminates fatally, it is about the 6th, 7th, or 8th day, when, if there has been no remission, or only a slight remission, of the spasms, the horse dies exhausted

by hard work. The task extorted by the whip and spur of the most brutal sportsman is nothing to it.

Favourable Symptoms.—About or a little before this time, there are sometimes evident remissions. The spasm does not quite subside, but its force is materially lessened, and the pulse becomes quieter. The jaw is not sufficiently relaxed to enable the animal to eat or to drink, or for advantage to be taken of the opportunity for the administration of medicine; and the slightest motion, or disturbance, or fright, recalls the spasmodic action with all its violence. If the remission returns, and is a little lengthened, and, particularly if there is more relaxation of the lower jaw, hope will begin to spring up: but do not hail it too eagerly, and do not remit the slightest medical attention. If the horse should recover, it will be very slowly, and he will be left sadly weak, and a mere walking skeleton.

The Post-mortem Appearances.—You will perhaps expect that examination after death would throw considerable light on a disease like this; you will, however, generally speaking, be grievously disappointed here. The system which, nearly first of all, presents itself will be an exception to this remark. The muscular fibre will exhibit proof plain enough of the labour which has been exacted from it, and of its vital power being perfectly exhausted: the muscles will often appear as if they had been macerated; their texture will be softened, and they will be torn with the greatest ease. You will find much general inflammation: the lungs will in the majority of the cases be highly inflamed, for they have been labouring long and hardly to furnish arterial blood in sufficient quantity to answer to this great expenditure of animal power. The stomach will exhibit patches of inflammation, but the intestines, in most cases, will present no diseased appearance at all.

The Brain and Spinal Chord.—You naturally examine the brain. You do not often find any thing that can well be connected with the production of such a disease. Sometimes you have slight injection of the membranes, and in a few cases chronic inflammation of them. The theca vertebralis will exhibit patches of inflammation—the medulla itself will often be darker, and more vascular:—in some cases, this has reached through the whole extent of the spinal chord; in others, that which was contained in the dorsal portion of the canal was affected; and in more numerous cases there was no morbid change that was worthy of record. One fact I am compelled to record, that although believing tetanus to be a disease of the motor column principally or solely, I never could detect any inflammation about the coats of the motor nerves, or any peculiar affection of that

column; but the morbid appearances, so far as they reached, seemed to involve the whole of the chord. Others have given different accounts.

The Morbid Appearance of the Locomotive Columns.—M. Gellé, professor at the Veterinary School at Toulouse, gives a very interesting description of the expected different appearance of the different columns of the spinal marrow in a tetanic horse. It is recorded in the *Recueil de Médecine Vétérinaire*, vol. vi, p. 246: “Having exposed the whole length of the nervous system, the cerebro-spinal fluid appeared diminished in quantity, and of a red colour. The inferior column of the spinal chord, particularly on the left side, was softened, and its white substance was pointed and mingled with blood. The gray substance was redder; the little points of blood were more numerous; and at intervals there were patches of blood. All the spinal marrow was to a certain degree softened, but less at the cervical than at the lumbar and sacral region, where it scarcely had any consistence, and was broken and torn by the slightest touch. The roots of the nerves which proceeded from the inferior columns were of a yellowish red colour; they were easily broken and separated from the spinal chord, while the superior ganglionic roots did not appear to be in the slightest degree altered. This morbid state of the locomotive nerves was most of all marked at the lumbar and sacral regions.

Appearance of the Spinal Chord, continued.—In the number for March 1830, of the same periodical, M. Gellé gives an account of the post-mortem appearances in the spinal chord of another horse that died tetanic. “The dura and pia mater were injected—the arachnoid membrane was healthy—the consistence of the spinal marrow was diminished—the softening was most evident in the gray substance, but it was equal on both the superior and inferior surfaces. The roots of the nerves were not softened on either surface; they possessed the character of health, except that the roots from the inferior surface were of a yellow nankeen tint, curiously contrasted with the roots from the superior surface.”

Contrary Opinions.—On the other hand, M. Vatel, another professor of the French school, says that, having had the opportunity of examining ten horses which died tetanic, he observed lesions worthy of notice in the cerebro-spinal system of two of them only.

Reflections.—Cases of tetanus do not occur to us every day in town practice, and the three last which I had terminated successfully; but in two others, after my attention had been directed to these different functions of the superior and inferior columns,

I certainly did not observe this “yellowish red or nankeen appearance of the roots of the locomotive nerves.” It is, however, a most interesting part of morbid anatomy, and I trust that you, gentlemen, will endeavour to throw some light upon it. The plain matter of fact is, that I do not believe that the spinal chord of one horse in twenty, that dies of tetanus, is carefully examined; the knacker is always in a hurry, and the examination would be a matter of impossibility at the stable of the owner. Amidst the filth of the knacker’s yard it can hardly be satisfactorily conducted; and we know to our cost, that those hungry imposing fellows would charge us nearly or quite the price of the whole horse for the spine, and especially if they knew the purpose for which we wanted it. From some or all of these causes, it results that we have scarcely upon record an examination of the post-mortem appearance of the spinal chord of a tetanic horse, and most certainly we have not one satisfactory one. We must wipe off the disgrace. The question is one of too great importance to be left thus in abeyance.

No Necessity for the Distinctions used by Medical Writers.—Medical writers describe various kinds of tetanus. They speak of tetanus anticus, or spasm of the flexors, bending the body forward—dorsalis, or spasm of the extensors, and bending the body backwards—lateralis, or spasm, principally of one side, and inclining the frame to that side—and erectus, including both, and keeping the frame upright and fixed. We have nothing to do with these things; ours is the tetanus erectus, affecting equally both sides of the horse, and making him sometimes a perfect fixture.

THE RE-ABSORPTION OF PUS, CONSIDERED AS AN IMMEDIATE CAUSE OF DISEASE.

By M. RENAULT, Professor at the School of Alfort, and Principal Editor of the Recueil.

[Continued from page 159.]

THE following cases are selected from our canine patients:—

CASE III.

February 2, 1831.—A dog was brought to the hospital on account of a large painful tumour, extending from the channel between the jaws, and which it occupied entirely, quite to the middle of the right cheek. According to the report of the owner, the tumour had developed itself immediately after a blow which

the animal had received on the cheek on January 31st. The dog had had the distemper about eighteen months before, and since that period had enjoyed perfect health.

His state on his arrival at the school.—He was lively and fed well, but he was restrained in moving his head, and particularly his jaw, by the tumour beneath. This tumour was very tender when touched—somewhat circumscribed—œdematous at its edges, and slightly fluctuating at the angle of the right maxillary branch. A viscid saliva ran from the mouth, and somewhat embarrassed the respiration. The populeum ointment was applied to the tumour; emollient fumigations, and half-diet.

3d.—The fluctuation was more evident. On opening the tumour there ran from it nearly or quite a pint of pus, a little bloody, and very fetid. The internal surface of the abscess was glistening, and of a livid red colour. Inject a solution of chloride of soda into the abscess, apply the cautery to the edges of the wound, and the populeum ointment over the surface of the tumour; the same diet. At night the animal was dull, its respiration was more difficult; but, nevertheless, it searched for something to eat.

4th.—The tumefaction is considerably diminished, but the wound is pale, and suppurates very little. The patient is dull—without appetite—the respiration accelerated and irregular, and, from time to time, accompanied by moaning. There is a slight nasal discharge; the spume is viscid and abundant; and the beatings of the heart are strong and quick; but the pulse is feeble. Injections of chloride of soda into the wound; dress it with digestive ointment; emollient fumigations; milk with honey and gum as food.

5th.—The wound is livid; it is scarcely moistened by a little serous discharge. The general symptoms are more intense; the beatings of the heart are strong and quick; the pulse scarcely sensible; the respiration more embarrassed; and the discharge from the nose very great. The animal that had been in high condition is reduced to a frightful state of marasmus. He died in the night.

Examination at six in the morning.—The dissection of the tumour, and of the cyst which it formed, presented nothing that we had not seen in the living animal: it only enabled us to state with more certainty that the abscess had no communication with any other part.

Respiratory apparatus.—The two pleural cavities contained a great quantity of sero-purulent matter, exhaling an odour, which, although weaker, reminded us of the smell which had proceeded from the abscess under the jaw. There were no false

membranes. *The pleuræ were as thin, glistening, and transparent as in their natural state; except that the sub-serous capillary system presented, here and there, faint arborescent injections.*

The surface of *both lungs* was thickly covered with *ecchymoses*, at somewhat regular distances, and the largest of which did not exceed a lentil in size. Besides these *ecchymoses* there were numerous perforations, about the size of a pin's head, forming a communication between the pulmonary tissue and the pleuræ, and through which, probably, the pus that we found had made its way into the pleural cavity.

The pulmonary substance had lost its sponginess—it would not float in water—it contained *a great quantity of infiltrated pus, mixed with serum*, in its tissue, and which escaped on pressure being made. *This pus resembled that which had been contained in the pleural cavities. Many small ecchymoses were remarked in the pulmonary tissue.*

Digestive organs.—The mucous membrane of the pharynx was strongly injected, and a great quantity of pus was found in it of the same smell, and having the same character, as that in the abscess beneath the jaw. A little pus was also found mingled with the mucus of the stomach, and had the same odour. To this was probably to be traced the vivid redness of the mucous coat of the stomach, particularly about the pyloric orifice.

I regret that the nervous and circulatory organs were not examined.

CASE IV.

A spaniel bitch, nine or ten years old, was brought to the infirmary, with an ulcerated wound in the lower part of the chest. This wound had existed two months, and no one knew the cause of it. Before its appearance the animal had enjoyed good health. During the first month the wound extended a little almost daily, and suppurated abundantly; but the bitch did not appear to be much affected by it. She ate, drank, ran about as usual, and preserved her condition. After this she still retained her appetite, but began to lose flesh. Within the last three days the suppuration has rapidly diminished, the appetite has failed, she has begun to cough, and she was becoming more rapidly thin.

Present state.—She has, behind the elbow, and on the inferior and lateral part of the chest, a wound nearly four inches long and three wide. The integument is destroyed through the whole extent of it. The lint with which the wound is dressed is covered by a great quantity of pus, possessing little smell, and of a grey tint; few granulations can be seen, and the wound is pale and livid. The mucous membranes are pale—respiration difficult—

there is debility, and the appetite fails. Wash the wound with an infusion of aromatic plants, and dress it with lint impregnated with tincture of bark. Emollient fomentations. Give mutton broth to drink.

April 27th, 28th, 29th.—The emaciation has made rapid progress; the animal is more enfeebled every day, and the cough is more frequent, but weaker. Suppuration is yet abundant, and the pus seems to be pure, and of a grey colour. Dress with strong digestive ointment twice in the day; and give, internally, bark wine diluted with water.

30th.—The patient refuses to eat; other circumstances the same. Continue treatment.

May 1st.—The wound is all at once become dry and covered with soft, black eschars—the cough feeble, and scarcely to be heard—the gait staggering, and diarrhœa is commencing. Wash the wound with chloride of soda; mixtures of gum to drink; injections of a decoction of poppy heads.

2d, 3d, 4th, and 5th.—The diarrhœa is become continual and fetid, and the patient is gradually sinking. She died on the morning of the 6th.

Examination.—The left lung is adherent to the thorax through a space corresponding with the external wound. False membranes have caused this adhesion, but they do not appear to be more than twelve or fifteen days old. *Two reservoirs (foyers) of thick pus*, resembling tuberculous matter, are at a little distance from each other towards the dorsal edge of the lung. *The pulmonary substance which surrounds these foyers is not changed. A few depôts of a similar matter, but very small, are scattered through the right lung; some of them are surrounded by a slight ecchymosis, others are in contact with sound tissue. The blood contained in the left cavities of the heart is very fluid, and small in quantity: that in the right cavities, a much greater quantity, is formed into a firm clot, exactly moulded to the internal surface of the ventricle and the auricle, and occupying the whole of the cavity. Almost a fourth of the clot is formed of chronic coagulum; the rest is one firm mass of yellowish-white coagulum.*

No alteration in the mucous membrane of the digestive tube, not even in the lower intestinal passages, although diarrhœa had existed five days.

All the left lobe of the liver was softened—it was in a manner dissolved. We found in its substance four or five foyers, not regularly circumscribed, containing a sanious matter resembling that which ran from the ulcer during the first days after her arrival at the hospital.

It should not be forgotten, that the liver is one of the viscera

in which these depôts of pus are formed after its absorption. These hepatic collections are rare in the horse; indeed, I have not yet observed them in him: but they are more frequent in the dog, in whom the biliary apparatus discharges a more important function.

CASE V.

A bull-dog, four years old, with suppurating wound in the scrotum.

Inquiries.—About two years ago he received a violent blow on the genitals, which produced considerable swelling of the testicles and their envelopes. This engorgement, which for a considerable time had all the characters of an abscess, did not spontaneously break, and was never opened. After fluctuating at several points, it ended by becoming indurated, and the enlargement remained stationary. About a month afterwards, the owner perceived that the scrotum was the seat of superficial suppuration, and remarking that his dog was becoming weaker, he made him bathe in the river; but this produced no good effect. The animal soon lost his appetite, refused his food, and remained constantly lying down. He was then brought to the infirmary. He was castrated the same day, by means of ligature round the cords, and the excision of the diseased parts below the ligature. A slight hemorrhage followed, which continued about an hour and a half, and was at length stopped by injections of Goulard-water. There was great prostration of strength after the operation, and the animal refused all food and drink.

Until the 16th, the wound exhaled a fetid odour, and did not suppurate. Lotions of chloride of lime were applied. On this day and the following he ate a little baked meat.

28th.—The wound was of a pale red, with slight granulations. Two grains of emetic tartar were given, and three injections administered in the course of the day. In about an hour after the emetic he vomited some mucous fluid, and also some faecal matter, very fetid, and of a deep brown colour. He refused to eat and drink, and the debility was extreme.

31st.—He had continued in nearly the same state, and died to-day.

Examination half an hour after death.—The peritoneum was highly injected, and thickly set with a great number of ecchymoses. The liver, which was much larger than in its natural state, was filled with little tuberculous foyers: they were not encysted, but merely contained a yellowish-black matter, firm at its circumference, and which, on pressure, suffers a purulent white fluid, without smell, to escape. These purulent masses

were very numerous, and the size of the largest did not exceed that of a pea.

The other viscera presented nothing remarkable.

I leave to the readers of the *Recueil* to judge of the value of these cases, with reference to the physiologico-pathological fact, which they were intended to establish. If they are not rigorously demonstrative, and that is my opinion, it will at least be conceded, that they give much probability to the theory of the re-absorption of pus. At all events, they will do good, by inviting discussion on a point of pathology, which, at the present moment, much occupies the attention of veterinarians.

Recueil, April 1834.

CATARACT.

By Mr. RICHARD RAWLINGS, Sen., V.S., Milk-street, Bristol.

HAVING read with considerable interest some observations in THE VETERINARIAN on the subject of Cataract, and especially on its suddenly appearing without previous inflammation of the eye, I am induced to offer my opinion on this point, and a very decided one, because it has been founded on more than twenty years' extensive practice. I wish not to revive an old controversy that was becoming a little too personal, or to raise any unpleasant feeling in the minds of those who have gone before me. We are infinitely obliged to those gentlemen; for if we are to follow only the beaten track of old established opinion, adieu to the improvement of our art! Mr. Percivall has lately added a supposed new disease to the list of those to which the horse is subject—scarlatina, and we are much indebted to him for the innovation. It is a disease which many of us had seen, but of which our too limited nosology contained no mention, and to which we had not dared to give a definite form or name.

I never saw a single case of cataract without previous disease of the eye; but a circumstance occurred in the autumn of the last year which did for awhile surprise and stagger me. There was a case in which cataract did seem to appear most suddenly, and without any previously observed disease.

On the 18th of October, a horse, warranted sound, was purchased by one of my employers, from an extensive dealer in Temple Street, Bristol, for £50. The dealing took place at Clutton, midway between Bristol and Wells, at which last place I then resided. The purchaser tried the horse in harness, and approved of his paces, but said that he had a cough. The dealer replied that it was a mere trifle, and he would give a special warranty

against that. The bargain was completed, and the horse was led to Wells by the purchaser's servant.

On his arrival there he lay down, and exhibited symptoms of great uneasiness. Presently afterwards he raised himself up suddenly, and coughed violently. I was sent for; and nothing could be more apparent than that the animal was labouring under inflammation of the lungs. He was bled copiously: a quart of castor oil was administered; injections were thrown up, &c.

A few hours afterwards I saw him again: he was no better. The gentleman then said to me, "I purchased this horse to-day under a warranty of soundness. He shall not stay in my stables to-night, and you take him to your's." The horse was removed immediately.

As the man was leading him into my stable, the horse ran against the door-post. I instantly remarked to my son, that I feared the horse was becoming blind. My first thought was, that there was a sudden counter-determination of blood from the lungs to the head. I had him turned round to the light, and examined his eyes, and in each was a slight cataract. I immediately returned to the purchaser, and told him what I had discovered; upon which he requested me to go to Bristol in the morning, and inform the dealer of the state both of the lungs and the eyes, and, if possible, to make arrangements with him. I did so. The dealer replied, that "it was impossible; for the horse had been examined on the previous morning by a veterinary surgeon, who had pronounced him sound." "Have you a certificate to that effect?" I asked. "No," he replied; "but it is true, I assure you."

Now, had the horse been examined by a veterinary surgeon, he must have seen the cataracts. "This, then," thought I, "must be one of those cases of cataract without previous inflammation of the eye, of the existence of which I had before doubted. These gentlemen are, after all, in the right, and I am mistaken. To proper evidence my former opinion must be surrendered. I will, however, inquire about the matter, and sift it to the bottom."

The dispute was settled between the parties, and, time after time—thirty times at least—I called on the dealer, and requested him to favour me with the name of the veterinary surgeon who had examined the horse, and passed him as sound on the morning of the sale. He had forgotten who it was; but this or the other stable-man could tell. They, however, knew nothing about the matter. At length, he gave me the name of the veterinary surgeon. I called on this gentleman, and found, as I was beginning to suspect, that he had not examined the horse until after he was returned to the dealer and had recovered

from his chest affection ; and that he had then given a certificate, that “ the horse was unsound, having cataracts.”

The horse, while the matter was in dispute, was sold at the repository for £17, as an unsound horse, and purchased by a coach proprietor in our city, and being then quite blind.

I feel assured that it is from such misrepresentations as these that the theory of cataract coming on without previous inflammation, but being, in fact, a primary disease, has arisen. I have seen many a case, when, for a considerable time, the previous ophthalmia was so slight as scarcely to attract notice, and, also, was entirely overlooked by those about the horse, until it was pointed out by the veterinary surgeon who was attending the horse for some other complaint. Will you permit me to refer to one case of this kind, and one out of a great many of the same character?

About the same time (October 1834), I was consulted by a gentleman relative to the lameness of a favourite horse, and, after due examination, I gave it as my opinion, that if the horse was fired and blistered there was a fair chance of his becoming sound ; “ but,” I added, “ he has a worse disease, and which I fear is incurable. Look at the off eye, and you will perceive the forerunner of much mischief.” The gentleman was astonished and angry, and exclaimed,—that he had had the horse three or four years, that there never had been any thing the matter with his eyes, and that there was nothing the matter now.

The horse was fired and blistered, and dismissed from my infirmary—the disease in the eye, in my opinion, progressing ; but I had been forbidden to do any thing to it. About a month afterwards the gentleman called at my house, and said, he was sorry to confess that my opinion was accurate : the eye was now weeping, and its diseased state could no longer be denied.” Proper means were adopted ; but cataract gradually formed, and the horse is now quite blind.

Is it not probable that on such circumstances as these the opinion (as I believe erroneous) was founded, that cataract can appear without previous ophthalmia?

CONGENITAL HEREDITARY CHRONIC GLANDERS.

By M. LAUTOUR.

A MARE that had laboured under glanders four or five months, produced a male foal on April 27, 1831. From the moment of its birth it had two indurated glands, not adhering to the lower jaw, and there was a white discharge from the right nostril. Ten days having passed, I perceived some minute ul-

cerations on the nasal membrane on the same side. The animal was suckled by the mother, and appeared to be in perfect health, with the exception of the circumstances already stated.

Little change took place during the first two months of the animal's existence. In the third and fourth months the respiration through the right nasal cavity was accompanied by a nasal sound, and exercise considerably augmented it. The appetite and spirits were unaffected.

The mare was destroyed in the month of October, and I had opportunity to examine the colt in the subsequent December.

The lymphatic ganglions of the mesentery contained tubercles of different sizes. The mesentery itself, in various parts, participated in the same disorganization. Five or six pounds of a yellow serous effusion were found in the abdominal cavity. There was little injection in any part, but every thing betokened a sub-acute inflammatory state.

The bronchial glands were indurated, but not in so great a degree as the glands in the thoracic viscera. The other thoracic viscera were sound.

The left nasal cavity presented nothing unusual; but there were deep ulcerations in the frontal and maxillary sinuses on the right side, and the turbinated bones were nearly destroyed: the bony parietes of their cells were softened, and denuded of their mucous membrane, and which was, here and there, replaced by vegetations resembling transparent jelly, of a light green hue. There were eight of these morbid productions, varying in size from a horse-bean to a large nut.

At the superior extremity of the nasal cavity was a polypous production, three or four inches in length; it looked like a middle-sized pear. Its parietes were thick, yet soft; and, on being cut into, a small quantity of white fluid ran from it.

The whole nasal cavity contained almost innumerable small ulcerations, for the most part not extending beyond the mucous tissue.

This case (and others resembling it frequently occur) does not prove that glanders is contagious; but the conclusion is inevitable, that it is hereditary. I believe that the disease may be traced to vitiated nutrition; for the foetus, forming an integrant part of the mother, owes its development to nutriment imperfectly absorbed, because the principal viscera of the mother are a prey to disorganization very considerably advanced.

There is no doubt that the mesenteric and bronchial indurations observed in the animal derived their origin from this cause, and their morbid condition spreads sympathetically towards the pituitary membrane; for when this irritation is once developed, it is capable of propagating itself indefinitely, attacking suc-

cessively the principal viscera, and causing disease of greater or less intensity, yet never losing its insidious character. It is a *Proteus* assuming every possible form; often eluding our most careful investigation, and exposing us to the commission of frequent errors; and so much the more frequent in proportion as the lesion of an important organ is discovered only by sympathetic phenomena.

It is, nevertheless, beyond doubt that glanders is often occasioned by irritation, more or less developed, of the respiratory organs of the chest. It may also be the consequence of inflammation of the intestinal canal.

As a proof of the last assertion, I saw, in November 1830, a colt, eighteen months old, and which, during the last three or four months, had been getting very thin. It had often had intermittent colic, and which at length terminated in death, after acute enteritis accompanied by violent tetanus and perfect trismus. There was also discharge from the left nostril, and the submaxillary glands were enlarged and indurated. There was serious disease in the digestive canal, and especially in the small intestine, which contained 400 strongyli. The mucous membrane of the nose was ulcerated in various places.

It is easy to perceive that a diseased state of the digestive canal must have existed during a considerable time. The colic and the slow and long emaciation are likewise proofs of this. At length the visceral affection began to interfere with the discharge of the principal functions: it was certainly the cause of the tetanic spasm, and we must trace the disorganization of the pituitary membrane to the same cause.

In conclusion, I believe the following to be the usual causes of glanders:—

1. Living in low, badly ventilated, and badly managed stables. The deleterious emanations which the animal is compelled to breathe, irritate the respiratory passages, and predispose them to take on this disease, under the influence of a very slight occasional cause.

2. It is the consequence of inflammation, whether proceeding from the influence indicated above, or having, as its cause, alternations of heat and cold. If, in these circumstances, the disease attacks the pituitary membrane, it loses its intense character, and passes into a sub-inflammatory state, and disorganizes more or less slowly the tissue which it affects. If, however, the inflammation manifests itself acutely in the bronchial mucous membrane, it soon gains the nasal cavities, by its phlogistic principle of extension, and produces glanders, which is always incurable.

3. When over-work, or scanty or bad food, have reduced the system to a state of complete debility, we observe, all at once, a slight discharge from the nose, which increases in proportion to the degree of predisposition, or as the primitive constitution of the animal might predispose him to these fatal effects.

[We do not hold ourselves responsible for any of the opinions, theoretical or practical, maintained in these extracts: our only object is to put our readers in possession of what is thought and done by our continental brethren.—Y.]

ON TREADS.

By Mr. J. P. CHEETHAM, V.S., London.

AMONG the accounts of the numerous cases recorded in your Journal, I do not recollect having seen any of the injuries arising from treads; allow me therefore to offer the following remarks:—

The term tread is applied to all those injuries which are produced by a horse treading upon and wounding the one foot with the other. In many instances these wounds are of trivial importance, while in other cases they are of material consequence.

Dray-horses in London are most exposed to these accidents, which are attributable generally to the incautious manner in which draymen turn round the corners of narrow streets. The horse most liable to the injury is the one in the shafts: he is nearly always literally dragged round by those in front, and in this act the poor animal is compelled by the weight of the load upon him, and the force of the other horses, to place his feet with an incautiousness which he would otherwise avoid, and, occasionally treading with one hind foot on the coronet of the other, a contusion or wound is the result. There may, perchance, be only a simple scratch, which will be of no consequence; or there may be a wound, or a separation of the parts about the coronet, which may be attended by serious effects: the coronary ligament, the intermediate soft parts, and even the bones themselves, are sometimes implicated. In a case of this description, on the animal's arrival at the stable he frequently cannot bear his foot to come in contact with the ground: he is covered with perspiration; his pulse perhaps 100 in the minute; and the respiration is augmented in an equal proportion.

In such a case, all that is to be done in the first instance is to wash the foot with warm water, remove the shoe, immerse

the foot in a large poultice, and put the horse into a large box well littered with straw. Before he has been long there he will, in all probability, be found in a recumbent position. Let him be watched without noise: if possible, let the attendant remain out of sight. I have known them lie down for many hours, and after they had thus rested, their pulse and breathing had become reduced to an extent that would scarcely be credited. The crust should be now thinned opposite the inflamed coronary ligament, the sole pared till the blood oozes through the horn, and six or seven quarts of blood taken from the saphena major or plantar veins: the foot should be fomented, and then enveloped in another poultice; purgatives are also to be administered.

As the parts inflamed are particularly sensitive, great care should be taken not to handle the leg roughly, for the slightest pressure, even with the finger, will cause excruciating pain. If in the course of twelve hours the symptoms have not amended, the foot must be re-examined, especially the coronary ligament; and if the crust is not sufficiently removed from the inflamed parts, it must be now effectually accomplished: the horn having been softened by the poultice, its removal can be executed with comparative ease. At this juncture, I have seen the abstraction of three or four quarts of blood from the vessels of the sole to be of immense service, so much so that the animal has, immediately afterwards, thrown a portion of his weight upon the injured foot. From the combined actions of the cathartic and other remedies, it may generally be calculated that our patient will be somewhat relieved; but if the irritative fever is not mitigated, it will be found to depend invariably upon one or other of the articulations having participated in the injury, or sharing in the inflammation produced by the injury of the contiguous parts. I have found that the substitution of a cold poultice, wetted frequently with cold spring water, will now be exceedingly serviceable. Two or three days after the accident a portion of skin usually detaches itself, and there is left in the bottom of the wound a slough composed of ligament or tendon: probably in ten days this is thrown off, and, with attention, the cavity will soon be filled with granulations; but if there is a discharge of synovia, the greatest possible care must be bestowed. I have had many of these cases, and in examining with the probe I have distinctly felt the surface of the bones, but only in one instance had I exfoliation, and in that I believe it arose from fracture.

The treatment I have usually adopted in such cases, and with the most advantage, has been a pledget of tow bandaged firm on the orifice, and kept constantly damp with a cold solution

(acet. plumbi, or bi-chloride of mercury, highly diluted). This is to be continued until the orifice is so far contracted that there is only a small aperture for the escape of the synovia; then sulphate of alumina calcined should be daily dusted on the part, which will generally diminish the flow of synovia; and, when it has ceased, a paddock will be a desirable place for the horse, in order that he may toddle about, and have gentle exercise. I have found this mode of procedure successful in cases of the most serious description.

One case I cannot well pass over without saying a word or two about it: the proprietor of the horse had come to the determination of having him destroyed, and that by introducing air into the veins. I was to be the operator: a proper quantity of straw was spread over the stable for him to die upon; several spectators were present, and our friend the knacker was waiting outside for his victim. Before proceeding to open the vein, I was again interrogated whether I had any hope of his recovery. My reply was that I certainly had, and he was reprieved. In the course of six weeks from that date, he was put to work, where he now is, and I may say equally valuable as before the accident.—The after-effects of treads are various. In many cases, sandcracks or false quarters take place, from a loss of a portion of the coronary ligament; in others, from a thickening of the surrounding parts, ringbone is produced. The length of time required for the treatment of these cases will vary according to their severity.

OBSERVATIONS ON RABIES IN THE DOMESTICATED ANIMALS.

By M. PEYRONNIE, M.V., Bordeaux.

[Six cows, two horses, three asses, and four sheep, were bitten at the same time by a rabid wolf. M. Peyronnie was not called in until eighteen days after the accident. There were few measures of precaution which he could then advise. After recounting them, he makes the following general observations on the disease. Few of them are new, and to the truth of others we are far from subscribing; but we give them as containing a tolerably faithful sketch of the opinions of many of our continental brethren.—Y.]

ALTHOUGH termed *hydrophobia*, rabies is not always accompanied by a dread of water. Many authors think that rabies

may be developed spontaneously in all animals—others have maintained that no dog can become rabid unless he has been inoculated with the rabid virus. Both these assertions are erroneous. The dog and the cat are the only ones of our domesticated animals that are subject to spontaneous rabies; and the actual cause of this disease is often unknown. The wolf and the fox are in the same situation. Herbivorous animals can neither propagate the disease among their own kind, nor communicate it to others. Huzard has incontestibly proved this in a memoir read at the Institute. Dupuy endeavoured to inoculate cows and sheep with the disease, by rubbing the wounds which he had made with a sponge that rabid animals of the same species had just bitten. The disease was not communicated, but, on the contrary, it did appear after the sponge had been bitten by a rabid dog, and then applied to the wound. M. Dupuy has also seen rabid sheep bite others of the same flock without the disease ensuing: I have seen the same.

It is commonly supposed that rabies appears at the expiration of forty days from the time of the bite: according to my experience, the time is very uncertain. While I was with my father, an ass was bitten by a rabid dog. Seventy-two days elapsed before the appearance of the disease, and then in one night the animal gnawed its thighs almost to pieces. A draught-mare was bitten in the lip by a bitch: it became mad eighty-two days after the bite. In the animals to which I was now called, nothing was so variable as the period of the development of the malady. In some it appeared as early as twenty days—in one, forty-five days elapsed. Without laying much stress on the assertion of Gervy, that he has seen madness break out in a sow two years after she was bitten, or that of Schmid, who says that the wife of a tailor became rabid twenty years after she was inoculated it may surely be asserted, that after forty days have passed there is no security that the malady may not appear.

A little before the appearance of the disease the bitten part becomes painful; it is tinged with red, and in some cases the wound re-opens.

One of the horses that had been bitten, and in whom the symptoms of rabies were easily recognized, was led out of the stable. The pulse was accelerated to 118 beats in a minute—the wounds were intensely red—and the animal was in a high state of excitement and fury. He was immediately bled. This had no effect in calming him, but it gave us opportunity to examine the physical state of his blood. Ten minutes after the bleeding, the vessel in which the blood had been received contained nothing but a white serous fluid, and an albuminous sub-

stance of very slight consistence: *the fibrine and the colouring matter of the blood had altogether disappeared.* M. Peyronnie acknowledges that it was the only opportunity he had of examining the blood of the rabid horse, and, therefore, is unable to say whether this is the usual appearance of the blood of the rabid horse, or of other rabid animals.

[We must confess that we have never seen this singular affection of the blood, and we scarcely think that it would have escaped our observation in all the cases in which, for the sake of experiment, we have abstracted blood from the rabid animal.—Y.]

CHOKING IN A HORSE.

By Mr. J. COOPER, V.S., Coleshill.

ON the 13th of December 1834, I was requested by Mr. Umbers, of Dunton Hall, to examine a bay horse that was taken suddenly unwell. On reaching the stable I found him coughing violently, and stamping with his fore feet: saliva ran from his mouth, which he occasionally attempted to swallow, but the greater part of it was returned through the nostrils.

I was soon aware that there was some obstruction in the superior part of the throat. He had a few hours before been eating some Swedish turnips, several pieces of which then lay in his manger. I immediately concluded that a piece had lodged in the pharynx, and accordingly passed a whalebone probang down the œsophagus, and a rounded substance could be distinctly seen driven before it. The horse after this appeared to be relieved; he ate a few mouthfuls of hay, and drank some water; he was then left for the night.

14th.—I was again sent for, the horse being much worse. He does not now cough; and the pulse is 50, but the flanks heave very much: he refuses all food and drink; has not lain down during the night; hangs down his head; saliva, mingled with mucus, runs abundantly from his nostrils, although he repeatedly swallows much of it. V.S. ævi ; administered aloes ʒij , digitalis ʒj , pot. nit. ʒij , and ordered some gruel, which he takes freely from a bottle. Thinking the substance might have injured the throat, I applied some infus. lyttæ externally.

15th.—Much the same; has dunned, and lain down during the night: the saliva continues to return through the nostrils. Blister the throat, and repeat the ball. He takes the gruel from

the bottle, but will not eat. I said that I had no hope of saving him, and early on the following morning he was dead.

On laying open the œsophagus from the pharynx downwards, on arriving within a few inches from the cardiac orifice, I was surprised to find a large-sized hen egg entirely whole and firmly fixed in the passage: the parietes of the œsophagus, where the egg lay, were very much dilated and ulcerated nearly through. The groom, who was present, immediately confessed he had given the egg a few hours before I was sent for, as he understood they were good to improve his condition. The balls which were given must have dissolved and passed by the egg, as also would the gruel.

A CASE OF FRACTURE OF THE RIGHT HUMERUS OF A DOG.

By M. DELAGUETTE.

A BEAUTIFUL bloodhound, trained to the chase of the wild boar, was wounded by a ball just as he had fastened on one of these animals in the forest of Marly. The ball struck him in a direction from behind forwards, and fractured the right humerus. Every sportsman was interested about this unfortunate dog, and especially the Count D'Artois, by whom he had been wounded, and he was brought to me a few hours after the accident.

I examined the wound of *Tout-beau*, a name which he merited on account of his beautiful form and excellent qualities, (the wound had not made him quit his hold). The ball had broken the body of the humerus all to pieces. I made the wound as nearly a simple one as I could, by detaching and removing every portion of bone that was loose: I cut off every sharp or irregular portion that remained, and the wound was afterwards covered with pledgets dipped in equal quantities of brandy and water, and I applied a bandage to retain the dressings in their proper situation.

It was summer; the weather was sultry, and fearing the consequences of a wound so complicated, and doubting the possibility of the re-union of the two ends of the bone, my first intention was to amputate the limb at the scapulo-humeral joint; but as the troop in which I served was ordered to Paris on the following day, and it was impossible that those measures could afterwards be pursued which such an operation required, I at length determined to confine myself to the seconding of those means which Nature might point out, and the result beautifully displayed her matchless power.

I had in the infirmary an intelligent groom, to whose care I entrusted Tout-beau, and I saw the animal about once in every week.

The first dressing being removed, the suppuration was abundant, and of a brown tint; a simple digestive was therefore applied.

For some time small splinters came away at each dressing. The parts surrounding the wound, at first very much swelled, diminished by little and little, and the suppuration became less abundant; the power of the digestive was then increased by the addition of tincture of aloes.

The extremities of the bones began to approach, and a callus formed, and that portion of the limb seemed to be very much shortened.

The wound, which was afterwards dressed with dry lint, healed in about three months; but in that time several little abscesses had appeared, from which spiculæ of bone were discharged. Tout-beau attempted to walk a little from the very commencement. As the wound cicatrized he got more about, holding up the broken limb; at length he began to rest some of his weight upon it; and at the end of five months he walked and ran, halting a little.

Tout-beau had the lot of those who cease to be necessary. For a little while after the accident one and another of the officers sent to inquire about him; but before he was cured he was quite forgotten; and, when cured, nobody claimed him, nobody would take him. He became a true regimental dog, living sometimes at one table, and sometimes at another, and then taking his walk in the forest of St. Germain. This misfortune had gained him the pity of the soldiers, who never shot at him as they did at every other stray dog; but otherwise there remained for poor Tout-beau nothing but the consciousness of liberty and independence.

THE USE OF TORSION IN THE CASTRATION OF THE HORSE.

By Mr. J. C. MOLYNEUX, V.S., London.

“No man was ever so completely skilled in the conduct of life as not to receive new information from age and experience.”

HAVING from time to time read in THE VETERINARIAN cases of the use of torsion for the prevention of hemorrhage from arteries, and hints that it might possibly supersede the clumsy

and cruel use of the actual cautery in castration, I determined to give the forceps a fair trial on the first opportunity that presented itself. I have now had recourse to torsion three times in castrating the horse, and with more success than I could even anticipate—I send you an account of them. I believe they will be the first cases of the kind placed upon record; and I trust that a perusal of them will stimulate my brethren to abjure, as far as they can, the barbarous usages of the farrier, and assimilate their practice, as much as the structure and physiology of the animals will permit, to that of the human surgeon.

CASE I.

Nov. 14th, 1834.—I was requested by Mr. Geale, job-master, of Regent Street, London, to castrate a colt eighteen months old. Before I commenced the operation I expressed my wish to use the torsion forceps instead of the cautery, to which Mr. G. immediately consented. The colt was cast and secured in the usual manner, and I made my incision through the scrotum, dartos muscle, and tunica vaginalis. I then divided the vas deferens and cellular membrane, immediately above the epididymis, leaving nothing attached to the testicle but the spermatic artery and vein. I then took the torsion forceps and applied them as tight as possible, after the clamps had been placed on the chord about three inches from the epididymis in the usual manner, and the testicle was cut off. The forceps were turned eight or nine times, and held firmly for four or five minutes, when the chord was suffered to return gradually into the abdomen. I waited five minutes, and no hemorrhage ensuing, I operated in the same manner on the other testicle. The colt was then let up, and only the trifling quantity of blood which is usually discharged by the scrotal vessels was lost.

15th and 16th.—No swelling, pulse 38. I ordered mashes and green meat, if it could be procured, otherwise a small quantity of hay.

17th to 20th.—No untoward circumstance. A little healthy discharge from the scrotum, which was directed to be kept clean.

26th.—Doing well. Turned out.

CASE II.

A colt, two years and a half old, rather too much encumbered with flesh. I deemed it necessary to reduce him a little before the operation. When duly prepared, he was operated upon in the same way. Very little swelling appeared after the castration, and the animal did exceedingly well.

CASE III.

I would have immediately communicated the two former cases to THE VETERINARIAN, but I waited until one of more importance presented itself in the course of my practice, and which, without danger of error, would display the actual value of this mode of operation. On the 20th of December as decisive an one occurred as I could possibly desire. The owner of the colts requested me to examine a five year and a half entire horse which he was about to purchase. He afterwards wished him to be castrated, in order that he might be ready for work at the commencement of the season.

The horse being in high condition, I had him duly prepared ; and on the 24th I operated on him in the same manner as in the two former cases.

25th.—Little swelling, appetite good, pulse 38.

26th.—Swelling increased, but not so great as in many cases in which I have operated with the actual cautery or caustic clams; appetite diminished, pulse 40.

28th.—Swelling diminishing, appetite returning, pulse 38.

29th to 31st.—The appetite good, and the animal recovering his former strength and spirits.

A friend of Mr. Geale's, who was present at this operation, told me that he would have two colts castrated in the same manner this spring. If any professional or other gentleman should be anxious to be present at these, or other similar operations, I should have much pleasure in gratifying their wishes, if they will favour me with their address.

There is one caution to which the attention of practitioners should be directed ; namely, to make what they suppose to be the requisite number of turns with the forceps steadily at once, and to hold the chord firmly two or three minutes afterwards. If after a certain number of turns the operator pauses, and then, fearing he may not have done enough, gives another turn, and, after that, perhaps another, the coagulum or clot is disturbed or broken, and hemorrhage will possibly ensue.

If after the proper number of turns the chord is immediately let go, it will probably be suddenly retracted, and, in the act of being quickly drawn up into the belly, will be untwisted, and in this case also hemorrhage may follow. The chord should be held firmly two or three minutes, that the clot may form above, and the vessel may adapt itself to its new state ; it should then be suffered gradually to retract, the forceps still remaining fixed ; and, having retracted nearly as far as it is then disposed to go, the forceps may be opened, and the vessel liberated.

The clams were used as a prudent precautionary guard in a

new operation so important as this; and I would advise the practitioner to put them on the chord in the first cases in which he operates with the forceps; but I am convinced that they will soon be discarded, together with the cautery and the caustic, and that the torsion forceps will not only present a more humane, but a perfectly safe mode of arresting hemorrhage in castration.

5, Nassau Street, Middlesex Hospital,
7th March, 1835.

We regard this as one of the most valuable papers that has lately appeared in our Journal, and we cordially thank Mr. Molyneux for it.—Y.

A CONTAGIOUS DISEASE IN THE GENITALS OF THE HORSE AND MARE.

By M. LAUTOUR, V.S.

IN April 1830, I was required to attend on a mare with the following symptoms:—running of a yellow-coloured fluid from the orifice of the vulva—the membrane of the vagina more highly coloured than is natural—phlegmonous and very tender enlargement of the right side of the udder, and which extended to the groin and the thigh on the same side. The discharge had continued eight or ten days, but the attention of the owner was principally fixed on the enlargement of the mammæ, and which had produced lameness sufficient to prevent the animal from working. The appetite, however, was good, and the fæces of their usual consistence.

I extracted eight pounds of blood from the jugular, and applied the scarificator to the tumefaction of the udder, to which I ordered emollient lotions. Injections of water with a small quantity of vinegar were thrown up the vagina.

The mare was radically cured in about fifteen days; and I thought that I had treated a simple phlegmonous affection.

While I was treating this case I was sent for to another of the same nature, as I imagined, two leagues off; and at the beginning of May I was called almost every instant to some new case, and each presented more serious complications. I was much surprised to see an affection, the characters of which were so similar in all, manifesting itself in so many subjects, and especially as I could not recollect any epizootic or enzootic that had been accompanied by these symptoms.

Having been informed that all these mares had been covered by the same stallion, I was anxious to ascertain the state in which he was; but this was impossible, for the owner had sold him clandestinely, and I could not discover into what part of the country he had gone. This sudden disappearance threw a new light upon the whole affair, especially as every day I had new patients.

I may state the following as the general character of the complaint:—increased discharge from the orifice of the vulva, of a white or yellow colour, differing in quantity in different patients, and, in general, most abundant in weak and emaciated subjects.

Few ulcerations appeared when I was called in at the commencement of the disease; but when that was not the case, and the disease had made progress, chancres were constantly found, either on the integument on the inside of the thighs, or on the edge of the vulva, or on the membrane within the vagina; and it often happened that chancres, more or less numerous, appeared on all these places at the same time.

I had always occasion to remark sympathetic affection of the mammæ, the termination of which was generally in suppuration, and especially when bleeding had not been practised. In some patients, the wound whence the pus had escaped became deeply ulcerated; and always, when the tumour being left to take its natural course, the orifice was large.

About twelve of these mares became affected with chronic glanders. If it had been found that only two or three had exhibited this complication of disease, I probably should not have attributed the appearance of mange to the malady now under consideration; but I found the number too great for me to avoid the conclusion that the appearance of glanders was connected with the inflammation of the genital parts, and induced by it.

All these mares had been covered at nearly the same time, and, generally speaking, in those to which I was first called, the disease was only commencing, and yielded easily to antiphlogistic treatment, the employment of general bleeding, scarifications of the udder, and emollient or acidulated injections into the vagina. As to those which I had occasion to see afterwards, the cure was more difficult to accomplish, and, indeed, was only accomplished after a treatment of six weeks or two months' duration. I then ceased to employ general sedatives or debilitants, but made the local treatment more active, using bitter injections (gentian), or styptic ones (alum), and more or less concentrated, as the case seemed to require. The ulcerations resulting from the breaking of the abscesses on the udder were powdered with bark.

When, at the end of six weeks or two months, my efforts were not crowned with success, the owners, wearied with the tardiness of the cure, abandoned their animals to the ignorance of empirics, who purged them without reason or mercy, and in a little time induced marasmus and death. That will not be surprising, when it is considered that, in many cases, the texture of the digestive passages of these animals had suffered materially from the consequences of the disease, and then the abuse of purgatives could not fail to hasten a fatal termination of the affair.

The greater part of the mares that were not submitted to any treatment exhibited most of the symptoms already described, and got well spontaneously after the space of six or eight months, or, sometimes, a year. It may be well to observe that in all those that were not bled there were febrile re-actions, more or less intense, about the third or fourth month; and that in most of them the tumours of the udder were, in a manner, interminable, for, when one ulcer cicatrized, two or three appeared in its place.

All those that were affected with glanders were, of course, destroyed, and on examination after death displayed the following lesions. The exterior portion of the generative organs was infiltrated, presenting marks of phlegmonous inflammation—the skin of the inside of the thighs was almost covered with ulceration—the membrane of the vagina was thickened, red, or livid, and beset with chancrous ulcerations of a more or less decided character—the neck of the uterus was usually scirrhus. The ovaries were covered with fungous or other degeneracies, in the highest state of inflammation—their tissue was become lardaceous, or had changed to a receptacle of purulent matter.—The peritoneum presented traces of inflammation about the pelvic region. The Schneiderian membrane was chancered, tumefied, and covered with fungus;—in a word, chronic glanders existed, and announced its existence, during the life of the animal, by all its usual symptoms.

I must not say that I am yet authorized to draw any absolute conclusion from the facts which I have stated, but I confess that I cannot help tracing some analogy between this disease and the syphilis of the human being.

1. The stallion which appeared to have communicated the disease, had, without doubt, something particularly the matter with him, or his owner would not have disposed of him so quickly and with such secrecy, when it was generally known that many of the mares covered by him had contracted a disease in their genital parts.

2. Every mare that I saw had been covered by this horse, therefore the malady under which he laboured possessed the

fatal property of being transmitted to others. I do not pretend to say that every mare connected with him became diseased—I have not the means of knowing this; but I do mean to say that all those who became diseased in this way had been covered by him.

3. The symptoms during life, and the lesions observed on examination after death, favour the suspicion which I have expressed.

4. The glanders which was developed in several of them renders this supposition more probable, since not only ulceration of the Schneiderian membrane, but caries of the bones of the face and the cranium, are frequently complicated with venereal affections in the human being.

Some cases which occurred in 1832 give additional probability to my surmise. After having covered a mare, apparently in good health, a stallion had many little pustular tumours on his penis, and particularly on the right side and the posterior surface of the organ. After having acquired, in the space of four or five days, the volume and the appearance of variolous pustules, they broke, and gave issue to a whitish fluid, which produced ulceration of every part of the mucous membrane over which it flowed. The suppurative process having passed, the pustules degenerated into ulcers, and to such a degree, that the penis of the horse presented posteriorly, and on the right side, a great number of ulcerated surfaces fully an inch in diameter.

The mares which he covered, after the rupture of the pustules, had also ulcerations, but only on the edges of the vulva, and those points which could have come in contact with the ulcerations on the penis; and in my opinion fully proved that there had been a true inoculation from the male to the female.—The vagina offered nothing worthy of remark. Two other stallions in the same stable were attacked with the same disease, but in a slighter degree.

Bleeding, and lotions of a weak decoction of gentian, frequently repeated, were the only means employed; and a cure was usually effected in about eight days. In order to apply the lotion, it was necessary to excite erection of the penis, and the diseased part was immediately discovered.

The mares were not bled; and in all of them the disease easily yielded to lotions frequently repeated.

Recueil, March 1834.

OBSERVATIONS ON GELDING.

By Mr. R. THOMSON, Beith, N. B.

(Addressed to Mr. DICK.)

I HAVE made many experiments as to the use of the ligature in the castration of colts and horses, and the removal of this ligature on the second or third day. However humane the plan may appear, there are serious objections to it. Suppuration, in the generality of these cases, does not commence until the fifth day—rarely sooner, and sometimes later. Inflammation of the scrotal portion of the peritoneum must extend more or less during that period, and its progress is not arrested until suppuration commences. The protracted time must, in this mode of operating, be more dangerous, especially in fiery blood colts. I have cut about ten colts, using this operation. Some did remarkably well: in others the swelling was very great before suppuration commenced. In one that died it was uncommonly large. Suppuration did not commence until the sixth day. The animal got better at that time—the swelling subsided—but he died about two months afterwards. The adhesive inflammation, by being so long protracted, had done so much mischief that the scrotum, peritoneum, and chord, were all glued into one mass. Fomentation, bleeding, and laxatives, were employed in vain. The colt was a wild fiery animal, half bred.

I have cut a good many bulls in the same way, and there does not appear to be the least bad consequence attending this plan with regard to them. I have scarcely seen any swelling, although I gelded three in one day, in the very heat of summer.

The first colt gelded by me did remarkably well: it was three years old, and the success of the plan made me persevere until I saw its danger; and I will geld no more upon that principle, unless particularly requested to do so.

The success of common gelders, in my opinion, is founded on this, that however coarsely the operation be done, and however unmerciful may be the application of the hot iron, there is an almost immediate tendency given to suppuration; suppuration does make its appearance much sooner after the iron than after the ligature; and the patient is always considered, in a manner, out of danger when the parts begin to suppurate, unless immediate inflammation of the peritoneum followed, and mortification has taken place.

I am quite aware that you are a great advocate for firing nothing more than the vessels, and so am I likewise. I would

fire no more than necessary. I well remember that, when seeing you castrating (and I was extremely anxious to see you perform that operation), no more was generally fired than the mouth of the artery. There is one small artery on the posterior part of the chord that cannot well be fired without touching a portion of the peritoneum. This small portion of it being touched with the iron suppurates; the rest of the divided portion gradually follows from that point where the cautery touches the peritoneum upon the chord, and prevents the adhesive inflammation from ascending far upon it, in consequence of the suppurative process more or less taking place in a very short time after firing. So that I consider the practice of firing the divided surface of the chord safer than tying, or even than firing no more than the mouths of the arteries; for if the least portion of peritoneum upon the chord be touched with the cautery, it forms a point for suppuration, and answers the object as well as the old plan of burning the chord like a cinder.

I am aware that it may be argued that, by firing the points of the arteries a suppurative point is formed in the chord; but the chord and the peritoneum covering it are distinct, and suppuration may take place extensively in the chord, as is sometimes the case in fistulous abscess of that part, without much affecting the peritoneum covering it.

I consider the caustic clams as operating upon the same principle. The caustic burns the peritoneum and the chord; suppuration immediately follows, the scrotum is left open while the clams are upon it, and allows the fluid to escape there which forms between the peritoneum and testicle, and in a great measure prevents the swelling and discharge from being so abundant as in firing or tying the arteries. I do not mean to argue that bad consequences would always attend tying the arteries, or only firing the mouths of the two arteries of the chord; but what I argue is this,—if a small portion of peritoneum is fired or burnt with caustic, the operation would be comparatively safer, as it cannot be denied that suppuration always follows castration, more or less, and the sooner the better; and inflammation of the peritoneum, to any extent, without suppuration, is always dangerous in gelding.

If suppuration follows the operation of firing in two or three days, it must be safer than when prolonged to five or six days, as in tying the arteries.

FARCY IN THE HUMAN BEING.

By M. VOGELI, M.V., Besançon.

CASE I.

IN 1817, M. P— pricked his left hand in performing certain operations on a farcied horse destined for the surgical instruction of the school. The wound was immediately washed and bound up. On the same day the arm began to swell even as high as the axilla, and a red line could be traced along the inside of the arm and fore-arm. He was put under the care of Dr. Parrat, physician in ordinary to the school. A bubo formed in the axilla, as large as a pullet's egg. It broke, and resisted every means to heal it. This induced M. P. to petition for leave to visit his home, and withdraw himself from the injurious influence of the fogs that prevail at Lyons during the winter. After an absence of nearly a year he returned quite well.

CASE II.

During the winter of 1828, M. Gardounèche, of Ussel, a strong and robust young man, twenty-one years of age, but too much addicted to the use of wine and spirituous liquors, pricked himself in the hollow of his hand. The wound would not heal, and the arm enlarged as high as the axilla, and continued in that state for a considerable time; the ulcer in his hand slowly spreading. Other ulcers appeared on his knee, his lips, and in the fauces. He returned to his native roof, and there he died in September 1829.

CASE III.

About the same time, M. M—, of Nobs, accidentally inoculated himself while dissecting a farcied horse. The results were the same as in the first case.

CASE IV.

Peter Couderq, of Concon, in the same class with myself, twenty-two years old, of very irritable temperament, of herculean stature, and enjoying perfect health, had the charge of a horse sadly farcied. As he was puncturing one of the farcy buds, on the 11th December 1829, the horse suddenly started. Couderq quickly drew back the bistoury, that he might not wound the animal, and, in so doing, pricked his left thumb. As the accidents which I have already related had made us aware of the danger of these wounds, Couderq washed it with liquid ammonia in which chloride of lime had been dissolved. The wound

was bandaged, in order to preserve it from contact with the air ; and neither on that day nor the following did he experience any inconvenience, and he began to think that all danger was passed.

13th.—He returned to his employment in the clinical school, with the management of which he was then charged. The ground was covered with ice, and Couderq going carelessly along, fell heavily. This caused some merriment among his class-fellows, which so exasperated him, that, not being in any other way able to avenge himself, he used some very angry and improper language. This only increased their mirth, and he retired. Some hours afterwards he betook himself to his bed, complaining of a 'dreadful headach. On the morrow he said that he was very ill: this drew from some of his companions expressions of surprise and ridicule. They looked at his stature and his strength, and they could not comprehend how a simple fall should so completely knock him up. He felt no inconvenience from the wound, and he and his companions had ceased to think of it.

On the *15th* he betook himself to the infirmary of the school, where I also was confined by severe catarrh. He went to bed, and waited for the physician, who did not visit him until the evening. Couderq used to be a great eater, but now the pain in his head deprived him of all his appetite. I will not speak of the care that was taken of him, which was very great, nor of the means that were resorted to; my present purpose is the possibility of the farcy of the horse being communicated to the human being. During the first days of his residence in the infirmary, however, no one dreamed of the inoculation of farcy: the object of the physician was to relieve the dreadful pain in his head, and he was immediately bled, and baths and sinapisms were applied to the feet. I undertook to be his nurse, and by the advice of the doctor applied a certain number of leeches to the inside of his thighs, and placed cloths wet with an anodyne decoction on his forehead and his temples, but with no good effect. The least noise startled him; the light became insupportable; his countenance assumed a mingled expression of melancholy and suffering, occasionally becoming dark and ferocious. His thumb had now become inflamed, and there was considerable suppuration from the wound.

Fever, which left him but few moments of respite, attacked him on the *18th*, and continued until the *23d*, when he sunk into a complete state of apathy, and was perfectly obedient to command.

In the night of the *23d* and *24th* he became delirious, and talked continually of his farcied horse and its disease, which he

described with singular exactness. This delirium, and the subject which occupied his mind, threw new and unexpected light on his case. The idea of farcy immediately presented itself to us, and we communicated our fears to Dr. Perrat and the inspector Bonnefoy, but who at first strenuously opposed our opinion.

On the 24th the delirium subsided; and about two o'clock in the afternoon Couderq asked me for a mirror. I gave him one; and, after having attentively gazed on his own countenance, he said, as he returned the glass to me, "It is astonishing! I thought that I had something on my left jaw: I felt a tickling as if some insect was crawling over it." During the rest of the day he frequently felt his left jaw, with an expression of pleasure on his countenance. He was calm during the night, and slept a little.

On the 25th, at six o'clock in the morning, the delirium returned. The itching of the jaw was become insupportable, and a slight redness began to appear. Couderq was continually lifting his hand to it. At nine o'clock the red spot had become a hideous ulcer, as large as a five centime piece, bleeding, and with its edges reversed and prominent: its surface was irregular, and scattered over it were little portions of muscular fibre, which had been broken in the bursting of the tumour.

The sudden appearance of this farcy bud, and which formed itself into an abscess so quickly and so hideously, confirmed our fears, and inspired the inhabitants of the infirmary with such terror, that five out of the seven which it contained immediately quitted it, either to return to their own lodgings, or to some other temporary abode. I alone remained; for, whatever might be my fears, I could not bring myself to abandon my companion. The delirium ceased in the course of the same day. Couderq then complained of pains all over him. Other buds appeared on his eyelids, his arm-pits, the bending of the elbows, and the back of the hands. The delirium returned at night, and only quitted him afterwards at rare and short intervals.

The farcy buds had caused the eyelids to swell, and they were quite closed; they were about a line in diameter—on other parts they were twice or four times as large. They were all prominent in the centre, and surrounded by a large red areola; and they quickly suppurated and discharged a white sanious or purulent fetid matter.

26th.—The arm, the fore arm, the lips, the alæ of the nostrils, the inside of the mouth, the neck, the chest, the groins, the prepuce, the glans, the inside and the outside of the thighs, the bending of the knee, the calves of the legs, and the upper surface of the feet, were covered with buttons irregularly scattered—sometimes in groups, varying in their numbers, sometimes isolated,

but in no place more distant than three-fourths of an inch from each other.

During the night of the 26th and on the 27th these buttons became white in their centre; and some of them formed into abscesses, containing thick flocculent pus, mixed with slight striæ of blood. The poor patient, in his delirium, spoke of nothing but his horse, and with even more exactness than at first. He seemed to suffer more from the tumours on the eyelids than from any of the others, for he imagined that they were effecting some strange change in him, and he had occasionally harboured that idea from the very beginning.

On the night of the 27th he fancied that he had returned to his native soil, and about seven in the morning my poor fellow-student ceased to live.

I continued to watch over him; and I do not know whether it was an illusion of my senses, or an actual fact, but more of the tumours seemed to whiten, and others increased in size for two hours after his death; and, after that, I observed many more of these buttons on the back and loins and thighs, but they were much smaller than any of the others.

CASE V.

M. G., a pupil from L'Ardiche, wounded himself in the fore finger of the right hand, some time in the month of July 1830, when performing, for the sake of practice, some operations on a farcied horse. Disorders, but less serious than those of Cases I and III, followed. I quitted the school at the end of August, and thus lost sight of him; but I met with him in January 1831, still in the infirmary, and in June 1833 with the wound in his finger unhealed.

I do not know whether these facts are conclusive, but, at least, they are true; and the whole of the fourth case passed under my own observation.

This is an exceedingly interesting paper, and reflects the highest credit on M. Vogeli. He who, braving all danger from contagion, and under so dreadful a form, remained at the bed-side of his unfortunate friend, when every one besides had fled, will ever stand high in the estimation of his fellow-men. The destructive agency of these animal poisons is too well known, and the account of poor Couderq bears considerable resemblance to the history of those who have perished from the infliction of slight wounds in the dissection of subjects that had not died of any recognized contagious disease. M. Vogeli's point is not, in our mind, proved—the identity of disease, *the communicableness of farcy*. Some of our British veterinarians may have cases in point.—Y.

THE VETERINARIAN, APRIL 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

IT is known to most of our readers, that many of the former and present pupils of Professor Coleman had determined to present him with a bust of himself, as a token of their respect. The presentation took place in the College Theatre, on Tuesday, the 10th of March. The bust was by Sievier. It was an admirable likeness of the Professor—it was the very man. It was placed on a neat scagliola pedestal, with the following inscription:—

THIS BUST OF PROFESSOR COLEMAN
WAS PRESENTED TO HIM BY THE
MEMBERS OF THE VETERINARY PROFESSION
IN 1835,
AS A MARK OF RESPECT, AND ADMIRATION
OF HIS TALENTS.

The theatre was filled with the subscribers, several of whom came from distant parts of the country, and with the Professor's present class. Mr. Sewell, as Chairman of the Committee of Management, was delegated to tender this offering of esteem and gratitude. He addressed the Professor in nearly the following words:—

“ Sir,—Forty-one years have now passed since you have begun to fill the Professor's chair in this College, with credit to yourself and advantage to your pupils. They are pleased to observe, that, after so lengthened a career, you are still enabled effectively to discharge the duties of that chair; but, ere you pass away from among them, they are anxious to present you with this testimony of the sense they feel of your habitual amenity of manners and the excellence of your instructions. I feel some difficulty in expressing myself as I could wish on this point; but I can say that you have ever given ample satisfaction to the majority of your pupils.

“ The veterinary art is of no recent date. It was known and cultivated in the time of the Greeks and Romans, and the writings of Palladius and Vegetius have reached us at this distant time, and are duly prized. Although, with the other sciences, it seemed

to perish in the general wreck of the middle ages, it at length began to revive upon the continent, and first of all in France ; Bourgelat, Solleysel, and some others, leading the way. I have had the honour of seeing the statue of Bourgelat, the first French professor, in the theatre of the school at Alfort ; and I am happy that we shall now have the bust of our Professor in our theatre.

“ The art has made great advance in England, and that is to be attributed chiefly to my friend, the Professor of this College. We have several works on veterinary science, but they are not such as we should wish them to be—they are not worthy of this institution, nor of the state of the science among us ; and if, gentlemen, we could induce our worthy friend, before he departs from among us, to give us a work of his own on the anatomy and physiology of the horse, he would leave behind him a monument more imperishable than this marble. I wish it had fallen into better hands, Sir, to have presented you with this memorial : it is a sincere tribute of respect ; and I again express our ardent hope, that, before you leave us, you would give us a work worthy of you and of us, and which, as I said before, would render your name more imperishable than this marble.”

Mr. Coleman then arose. He was evidently much affected ; but the applauses of the company, which long continued, gave him time to recover himself. His first sentences, however, were nearly inaudible. We conceived him to say, “ I want words, gentlemen, to express the pleasure and the thankfulness which I feel at the present moment. With that greatest of all crimes—that which includes in it every other crime—ingratitude, you shall never, I trust, have to accuse me. This is, indeed, a reward for the forty years that I have spent in the instruction of veterinary pupils, and, I trust, the improvement of the veterinary art.

The establishment of a veterinary school had long been agitated in this country. In 1791, M. Sainbel was appointed Professor of the contemplated rather than organized institution. In the October of that year the Professor's lectures were first advertized, and at the close of the year there were four resident pupils in the College. In January 1792, the first public veterinary lectures were delivered ; and, applications becoming numerous for the reception

of sick horses, the committee determined that stables should be forthwith erected. On the 1st of January, 1793, the infirmary was opened; and before the end of February, the number of sick horses had increased to 50, and there were fourteen resident pupils. Before the end of that year, Sainbel died.

“It becomes not me to speak of the abilities or the deficiencies of the first Professor of the Veterinary College. The governors, however, had great difficulty in supplying his place. Overtures were made to more than one, who were supposed to be as capable as, under the circumstances, they could be, to fill the situation; but the art was in its infancy, and the new professor of it would have much to contend with, and they all declined the offer. I was then practising as a surgeon. I knew nothing of veterinary matters any farther than I had been engaged in many careful dissections of the eye of the horse for a particular purpose, and had likewise been experimenting on the phenomena of suspended respiration in animals. My name was at length mentioned by my kind master and patron, Mr. Cline.

“I was not much disposed at first to accept the offer of the professorship,—indeed, I peremptorily refused it; but, being urged by friends, who told me that I already knew as much as, and probably somewhat more, than any other person to whom overtures could possibly be made, of the anatomy and physiology of the horse, I was induced to accept of the situation, on the condition that Mr. Moorcroft, a highly talented veterinary practitioner, would become my colleague. He consented, and we were appointed.

“I found thirteen students at the College, many of whose names are familiar to you, and who, since the death of the first Professor, had, under the direction of Mr. Richard Lawrence, conducted the practice of the College: and, gentlemen, when I was brought into immediate contact with them, and observed the extent of their acquirements, I began to see the rashness, perhaps I should rather say the folly, of my conduct. I found there, Mr. Richard Lawrence, Mr. Bracy Clark, Mr. Field, Mr. Bond, and others who were afterwards ornaments to their profession. I brought with me some knowledge of comparative anatomy and physiology, and of the grand principles of medical science; but

I found those who were acquainted with that which was of infinitely greater importance,—the best mode of practising on the diseases of our chief patient.

“However, we went on comfortably, and as I imagined satisfactorily, when Mr. Moorcroft thought proper to resign. He pleaded ill health—I could see no ill health at all. He also pleaded interference with his duty to those by whom he was employed in private practice of considerable extent; but his time at the College had been clearly specified—two hours, three days in the week, and with little or no call upon him for attendance at uncertain hours. It was not for me then, or now, to inquire into his motives, but I confess that I felt myself rather ill-used.

“The situation in which I now found myself was perplexing and annoying to the greatest degree. I felt that I could not, without many mortifying reflexions, return to my first profession; but I felt also that it would be presumptuous, perhaps dishonourable, for me, so little versed in veterinary matters, to superintend the interests and the growth of the infant school, and, after much serious consideration, I determined also to resign.

“The governors gave me credit for the feelings by which I was influenced, but they were unwilling to accept my resignation; and my own private friends, relying on my industry, and I may, perhaps, be permitted to say, on my principle also, urged me to stay. They conceived that a course of severe study, and from which they thought, and I trust justly thought, I should not shrink, would at no great distance of time make me fairly qualified to preside over that institution, and, perhaps, better qualified than most other men at that day would be. I yielded—whether rightly or not my pupils and the profession must judge—and I became sole Professor of the Veterinary College.

“I trust that you will give me credit for losing no time in preparing myself for my arduous duties. While I made myself more thoroughly acquainted with the anatomy and physiology of the horse, and the symptoms of his diseases, I instituted a course of experiments on the power of certain drugs on certain of his functions, and on his constitution generally. I brought with me all my prejudices as a surgeon. I imagined that the

drugs which would produce a certain effect on the human being, would produce the same effect on the horse—with some difference only, perhaps some great difference, in the dose. I thought that I should vomit him with tartar emetic, and purge him with jalap. I soon, however, found that I was wrong here—I had something to forget as well as much to learn; and anxious observation and numerous experiments convinced me that the diseases of the horse and the human being were often-essentially different—their treatment, perhaps, the same as to the grand principle, but strangely different in the application of that principle, and the operation of medicines setting at defiance all my preconceived opinions. I could not vomit by ipecacuanha, or nauseate by tobacco, and scarcely ease pain by opium: in fact, I had every thing to learn.

“ I then considered the character and standing in society to which my pupils had a right to look, and which, in fact, belonged to those who practised my new profession. I saw some estimable men among them—men of high talent and acquirements; but I saw a great many more who had nothing estimable in their general conduct, and whose practice was grossly empirical; and I saw, also, that it was in vain that the man of character and talent strove to emerge from the general mass. He might be esteemed, and might associate with those who knew his worth, but he had no claim that he could enforce to general regard. *He was a farrier*, and, as such, excluded from the superior and almost from the middle classes of society.

“ I then bethought me how I should give respectability to such a profession; and the mode of effecting this was soon afforded me. Veterinary surgeons began to be appointed to cavalry regiments; and I prayed and demanded that they should be appointed in the same way as the human surgeons—that they should be commissioned officers—that they should rank as gentlemen. With some difficulty I obtained my object, and thus gave to the veterinary profession a new character and importance. I gave to its members a claim to respect where they had not otherwise forfeited that claim. I gave them a right to admission not only to a superior class of society, but to the highest

and the best—nay, under fitting circumstances, to the table of royalty itself.

“Still, gentlemen, it was a hard battle which I had to fight: the prejudices of the public were not to be at once, nor until after a long lapse of time, disarmed; nor do I think that I should have had the resolution to have struggled on, nor should I have struggled successfully, had I not had kind and powerful backers. In Mr. John Hunter, Mr. Cline, Dr. Fordyce, Sir Astley Cooper, Sir Everard Home, Sir Charles Bell, Sir Benjamin Brodie, Dr. Pearson, Mr. Green, Mr. Mayo, and Mr. Travers, I had those who zealously and perseveringly upheld me, and the respectability of the art I taught.

“You may suppose that a great deal of ignorance with regard to the horse continued to prevail, and that not only among the lower classes of society, and the lower classes of veterinary practitioners, but the bench of justice was not free from the imputation. A horse was sold perfectly sound; a little while afterwards *he sprung a curb*, attended with a little more swelling and inflammation than usual. The purchaser said that he was unsound, and returned him, and commenced his action. Mr. (afterwards Lord) Erskine, in opening the case, remarked, that horse-causes were generally tedious affairs; “but this, gentlemen,” said he, “will be an exceedingly short one, so short, that I shall only have to state my case in order to obtain your verdict immediately. The horse in question had scarcely been a day or two in my client’s possession before he was discovered to have a sad swelling beneath the hock—the hock in the horse, you know, answers to the knee of the human being” (so much for his lordship’s anatomy!). “It is a very serious thing for us to have swellings about the feet, and the legs; but when they reach to the knee, and threaten to run up to the body, I need not tell you that there must be constitutional disease fraught with danger.” He then called a farrier, supposed to be skilful in these matters, and he confirmed the opening of the counsel to the very letter. He said these swellings were very bad things indeed; that they proceeded from a kind of gout; that it was bad enough when the horse had swellings lower down; but that

when they crept as high as the hock, it was all up with the animal. The judge, Lord Mansfield, held that this was a very serious grievance—a manifest and, probably, incurable unsoundness; and that, therefore, the defendant must take the horse back again: and so verdict was given accordingly for the plaintiff.

“ Another cause was tried before the same judge. A horse was sadly lame in one of the fore feet, and various measures of relief had been ineffectually tried. The owner took the horse to a farrier, who, after a very serious examination, told the gentleman that he could take away the cause of the mischief, and that, if he would call on his return from a place to which he was going, he would shew him all about it. The gentleman returned in due time. ‘ Here, sir,’ said the farrier, ‘ I don’t know whether it is bone or gristle, or what it is, but here is the source of all the evil’—holding up the navicular bone! You, gentlemen, know what must have been cut through, and what mischief must have been done, in order to get at that bone; and that the horse must necessarily be ruined for life. He was so. And when the farrier sent in his bill, the gentleman refused to pay it, on the ground of mal-practice. The farrier commenced his action—the whole story was told, and so ignorant was the judge of what was good or bad practice in such a case, that he thus summed up: ‘ The plaintiff employed the defendant—he had confidence in him, or he would not have employed him: the man acted to the best of his judgment, and he must be paid for his time and trouble;’ and, accordingly, the verdict was for the plaintiff.

“ I am proud, however, to say, that, so far as my knowledge extends, only two actions have been brought against pupils of mine for mal-practice; and, although in both cases, the verdict was against them, yet, in my opinion, neither of them ought to have suffered in reputation or in purse. One of them was sent for to examine a sick horse. Immediate bleeding was evidently indicated. It was then customary to bleed with the fleam; but my pupil had not his blood-stick with him. A delay in the bleeding might have been dangerous. He asked for some substitute for the blood-stick, and a hammer was given to him. The horse was bled. The vein afterwards inflamed, and a great deal of

sloughing ensued. The owner brought his action against the veterinary surgeon for mal-practice; and although it could not be proved that there was any necessary connexion between the use of the hammer and the subsequent inflammation of the vein—although it was highly probable that from some inflammatory tendency, or other unknown cause, this same disease of the vein would have ensued had the blood-stick been used (for the adjustment of the force used in order to accomplish the purpose would have been the same, and a person skilled in his profession, and aware of the power which it was actually necessary to employ, might have used a brick-bat as safely as a blood-stick), the defendant was saddled with heavy costs and damages, and, in fact, eventually compelled to quit that part of the country.

“Another of my pupils was consulted with respect to a horse that had inflammation of the eyes. He recommended among other things a rowel under the jaw. His employer could not afford to pay any great sum for medical attendance, and my pupil told him that if he would call as he passed, which was almost daily, he would dress the rowel for him with pleasure; nay, once, or twice, or thrice, he went considerably out of his way, and did what was necessary to the rowel. Several days, however, passed, and the owner did not think proper to call with his horse; and, from some of those causes, of which we know so little, gangrenous inflammation was excited in the rowelled part, and the horse became glandered and died. An action was commenced against him for negligent treatment; and although it might justly be disputed whether the veterinary surgeon is compelled to give balls, or to move and clean rowels, any more than the practitioner of human medicine is expected to administer his own draughts, or to dress the blisters which he orders (and in this case it was from mere kindness that he had offered occasionally to attend to the rowel), the jury, listening to the opinion of a farrier, who swore that the glanders was produced by the neglected rowel, considered he had not done his duty, and returned a verdict against him.

“I am proud to repeat it, that these are the only two instances that I know of in which actions have been brought against vete-

rinary surgeons for unskilful or negligent conduct, and, in my opinion, they were unjustly brought in both these cases. The confidence of the public was difficult to obtain at first; the young practitioner from the College had many prejudices to contend against; but that confidence has been gradually gained, and it will now be your own faults, gentlemen, if you do not obtain a fair share of employment, and live in society with comfort and reputation. It was imagined a few years ago that you were multiplying too fast, that you were elbowing each other too closely, and that the number of the students must necessarily decrease. I do not know how that came to be thought of; but however that may be, the number of my pupils, and the number of veterinary surgeons sent into the world, has been larger and larger every year; and I have heard of very few of them not doing comparatively well, without the failure being clearly attributable to themselves. Some of them I know have made, or are making, large fortunes.

“Not only is the number of students from the college school increasing, but the number of schools is increasing too. There are now four veterinary schools,—two in London, one in Edinburgh, and one in Glasgow. Did I ever object to this? No. I have uniformly asserted, that if these schools are honourably conducted, in proportion as able teachers are multiplied truth is likely to be elicited. Discussion, friendly and candid discussion, always does good: both disputants cannot be right, and it will sometimes happen that both will be proved to be in the wrong.

“My old apprentice and assistant, Mr. Sewell, with whom I have lived five-and-thirty years, without one serious difference—difference of opinion there has often been—and why not? I like discussion; it is the only way in which truth can be discovered or confirmed. There has, however, been no difference which could impair friendship or mutual esteem. He has urged me once more to become an author. May I ask him why he has not himself favoured the public with one of those valuable works to which he alludes? If, however, he has not done this, he has the strongest claim to the public gratitude for introducing, at least for establishing, an operation—I mean the excision of the nerves of

the leg—which will live as long as veterinary science is known. It may not suit all cases. When the sinew has been abraded by the roughened surface of Mr. Turner's navicular bone, it may hasten or produce the rupture of that tendon ; but it is applicable to so many cases in which it will ease the sufferings and prolong the services of a noble and useful animal, that it will never be laid aside, and with it the name of my friend will be ever connected.

“Veterinary writers have increased. There is my friend opposite to me (Mr. James Turner): he has published an admirable work on the navicular disease in the horse. I will not say that the cause of that particular lameness was unknown before the appearance of Mr. Turner's book ; but it was very obscurely understood by the best practitioners : the majority had no notion whatever of it, and the treatment of it was as rude and brutal as can be imagined. He who first brings an important subject before the public—who first of all clearly elucidates it, and labours until he has established it in the opinion of the public, deserves all the credit and praise connected with it.

“There is Mr. Richard Lawrence, a man of good education, great talent, and an admirable horse-limner. Very few persons are aware how much instruction may be derived from the writings of this gentleman. He ought to have filled this chair : he was ably conducting the arrangements of the school when I first came here.

“Mr. Bracy Clark is likewise a man of superior education and talent. He has written an elaborate work on the foot of the horse. We differ about some things connected with that subject ; we agree as to the general anatomical structure of the foot ; but we differ about the physiology of certain parts of it. What harm can come of that ? The public will judge which of us is right, and which is wrong. I am told that he complains that I have not used him well : I am yet to learn in what particular ; I am totally unconscious of it. I have recommended that which I thought was founded on true physiology in his work, and I have given my reasons for not agreeing with other parts. If this is injustice, I am yet to learn the meaning of terms.

“ Mr. W. Percivall has written some excellent works on the anatomy, and physiology, and diseases of the horse, and exceedingly useful to the student. If I could be induced to comply with the request of my worthy assistant, and leave behind me some record of my opinions and instructions, I could not expect to rival the accuracy and perspicuity which characterize the productions of that gentleman.

“ Mr. Youatt, his brother in the successful pursuit of veterinary science, has published various works, which reflect on him the highest credit.

“ Mr. Joseph Goodwin has also published a useful work on the foot of the horse, and the principles of shoeing.

“ All these gentlemen were my pupils, and I need not tell you that I am proud of them.

“ There is another author who was not my pupil, who was assistant to M. Sainbel before I was called to the College; I refer to Mr. Blaine. You, gentlemen, well know the value of his works, and the assistance which you derive from them in the earliest and the most advanced period of your studies.

“ I look to the Veterinary College, and I see three gentlemen whom I must not pass over in silence. Mr. Spooner, of whose intimate knowledge of veterinary anatomy, and his facility of imparting that knowledge, many of you have had experience. My old friend, Mr. Vines, the assistant demonstrator,—whether a little harder work agrees with him I know not, but he is actually getting fat upon it. I am glad that he now gives much more satisfaction than he used to do, and I regard him as a valuable officer of this institution. I mentioned a third person, Mr. Morton, neither a veterinary surgeon, nor a veterinary student, but who, somehow or other, has contrived to pick up a vast deal of knowledge on veterinary subjects, and which, combined with that indispensable portion of your education, chemistry, he satisfactorily imparts to the pupils.

“ If I were to select particular families who have distinguished themselves in the practice of our art, the name of Field would first of all occur to me. The father was a student to the College when I came to it. I am told that he amassed a princely fortune :

That did not spoil him; wealth did not produce idleness. It has not spoiled his sons, who are most assiduous in business, and much connected with the respectability and the growing improvement of our profession.

“And now, gentlemen, in conclusion, permit me, from my very heart, to thank you for this testimony of your esteem. Your esteem has ever been my best reward; and this token of it, so near the close of my career, is indeed dear to me. I do not, however, take it as notice to quit. You do not mean it so; and I do not think that retirement from the duties of this chair would at present contribute to my happiness; yet, when you no longer deem me capable of fully discharging its duties, give me the hint, and I will retire. Gentlemen, once more I thank you; I ought to be, and am warmly interested in your welfare—for you are all my children. May you be prosperous and happy! and if you are so to the extent to which I wish you, you will not have much cause to complain.”

Mr. Morton then said that he had a short but pleasing task to perform. He begged to present the Professor with a list of the pupils who had, in contributing to the procuration of the bust, received far more honour than they conferred.

The company re-assembled at the Freemasons' Tavern, at six o'clock, in order to conclude, in the good old English style, the ceremonies of such a day, by a dinner. Several of the personal friends of the Professor were now present; among them we observed Sir James McGregor the Surgeon-General of the Forces, Sir Charles Clarke, Sir C. Bell, Professors Mayo and Green, Drs. Bright and Paris, and Messrs. Bransby Cooper and J. Cocks; also Messrs. Morton and Spooner, Secretary and Treasurer to the Committee, and Mr. Sievier, the sculptor of the bust. — Few of Mr. Coleman's present class were absent; and we were pleased to see so great a number of practitioners, and some of them from distant parts of the country. We recognized Messrs. Bardell, Bartlett, Braby, Byron, Cheet-ham, Dickens, W. Field (Mr. John Field was at the presenta-

tion), Fletcher, Harrison, A. Henderson, Hollingworth, Jumpson, King, jun., Leigh, jun., Lepper, Lowes (3d Dragoons), Marshall, Mayer, jun., Morgan, Sibbald, Silvester, Snow, Sparrow, Stanley, James Turner, Thomas Turner, Vines, Wright, and Youatt.

Mr. Sewell filled the chair, and Messrs. Sibbald and James Turner were Vice-chairmen. The three sons-in-law of the Professor, Messrs. Selby, Bruce, and Barwell, were seated opposite to him; and his daughters, with Mrs. Sewell and other ladies, occupied the gallery.

Such an assembly, and on such an occasion, presented every thing that was gratifying to the well-disposed mind. It was one of those happy hours in which we can forget every difference of opinion, and every prejudice—in which those who by accident, or strange misunderstanding, or even on principle, are at variance, may, for the moment, consign to oblivion every cause of contention—in which we may not only afford to do justice to each other, but should scorn ourselves if we were not disposed to do so. It was one of those sunny scenes in life's varied track, in which we can joyously abandon ourselves to every sensation which the passing hour excites, and to which memory will often delight to recur.

Surrounded by his natural and his adopted family—by all his children, as he had called them in the morning—the Professor forgot the bodily pain under which it was evident that he laboured during the presentation, and threw off the weight of many a year; and even the countenance of our somewhat too cynical friend, the chairman, shortened and expanded almost to the contour that we remembered many a year ago.

The cloth being removed, the usual toasts, "The King," "The Queen," and "The Duke of Cambridge, the President of the College," were drunk with the accustomed honours. "The Governors of the Royal Veterinary College" was then given; and, after that, the health of him whose bust was placed in a conspicuous part of the room, and respect and regard for whom had brought us together. Mr. Bransby Cooper's "one cheer more" was electrical. Mr. Coleman, now quite himself, replied with all that good humour and affectionate regard which the father

of such a family would naturally feel, and to the expression of which he well knew how to give the fullest effect ; and although he, and “the old gentleman” who presided, did, as the Professor facetiously said, lecture twice in the same day, and on the same subject too,—why they were not addressing altogether the same company, and a lecture on such a theme would not pall on repetition.

To this followed the health of the Chairman, who apologized for the imperfect manner in which he feared he might discharge the duties of the chair, stating that it was the first time he had been called upon to preside over such an assembly. That apology was needed not, for the critics and the spirit of criticism had, on that evening, been *nem. con.* excluded.

Then followed the common routine of toasts, “The College of Physicians ;” and Dr. Paris, in reply, traced the connexion between human and veterinary medicine—“The College of Surgeons ;” and Mr. Mayo compared together the principles and the practice of human and veterinary surgery—“The Examiners ;” and Mr. Green eloquently described the progress of the veterinary art until it had spread and ripened into a science—“The two absent Examiners, Sir Astley Cooper and Sir Benjamin Brodie ;” and Mr. Bransby Cooper, always speaking from and to the heart, depicted the zeal of Sir Astley in the cause of veterinary science, and the friendship of half a century between him and the Professor, only changed by having acquired the mellowness and the sanctity of time. This was touching the right string, and the Professor arose, and, proudly acknowledging a friendship which would cease only with the last throb of life, or be but for awhile suspended then, begged that he might be permitted to propose one glass more to him whom illness alone could keep from them that evening ; his earliest, latest, best friend, “Sir Astley Cooper.”

“The memory of Dr. Babington” was then drunk in solemn silence. “The Medical Officers of Guy’s” called from Dr. Bright an expression of good will towards the veterinary pupils and the veterinary cause.—“The Army Surgeons” drew from Sir James M’Gregor the acknowledgment of much personal friendship for

the Professor, and of the high estimation in which, as his peculiar situation gave him the opportunity to observe, the cavalry veterinary surgeons were held by their brothers of human medicine, and by the officers generally of their respective regiments.—“The Visitors” elicited from Sir C. Clarke a facetious account of “the weakening strengthening humours” of a certain farrier: he also spoke of his esteem for the Professor, and his respect for our art, both of which would long strengthen, without one momentary weakening intermission.

The healths of “Messrs. Byron and Hollingworth,” two old pupils of Mr. Coleman, and respectable practitioners in Lancashire, and with whom the proposition of presenting the Professor with a bust of himself originated, and also of “Mr. Sievier,” the sculptor, were now drunk. Mr. Byron, in a neat reply, distinguished by feeling and eloquence, said that he and Mr. Hollingworth had few more pleasing recollections than of that evening, when, in company with their excellent friend Mr. Morton, this plan was first suggested. To the indefatigable assiduity of Mr. Morton, however, was to be traced the completion and the triumph of it. It was no common-place language which he used, when he declared that he had never spent a happier day. The recollection of the kindness and the talents of the Professor would long be cherished by him; and in zeal for the respectability and progress of veterinary science he would always be found in the foremost rank.

Mr. Mayo, with some humour and much feeling, proposed “Perpetuity to the Bust of Professor Coleman.”

Whatever differences of opinion might have existed, rightly or wrongly, with regard to certain points connected with veterinary science, there had been but one feeling among those who had the opportunity to follow the Professor into private life. At his own table—in the bosom of his family—as an affectionate husband, and a kind and indulgent father, he was unrivalled. His family were now present, at the table and in the gallery; the happiest among the happy spectators of this scene. Mr. Bransby Cooper seized these points; he spoke of them in his own way; and there was no toast throughout the evening drunk with more

enthusiasm than “ Professor Coleman’s daughters and their husbands.”

It was delightful to see the sons-in-law contending who first should return thanks for this toast ; and each did speak, and each spoke well, for each spoke from the heart. It was one of those few occasions in which the virtues and the bliss of domestic life might, without intrusion and without profaneness, be depicted in a public assembly. Let those who are happiest at home imagine how they would have felt, and what they would have said, and they will have a not incorrect version of the replies to this toast.

The health of the Committee was now proposed ; and Mr. Sibbald returned thanks.

The chairman having retired, Mr. Spooner was called to the chair. In proposing his first toast, “ The Veterinary Profession,” he gave an interesting sketch of the rise and progress of our art ; and proved that it was now founded on those principles, and had made that rapid advance which assured us, that it would, at no great distance of time, assume its due and proper place amidst the sciences most intimately connected with the cause of humanity and the prosperity of the country. Pleasure and harmony afterwards continued to prevail, and were prolonged, we are not ashamed to say, on such an occasion, until almost the morning’s dawn.

One or two *omissions*, perhaps, should be glanced at, which were excusable enough in the agitation and pleasure of the moment. The health of the Treasurer was not drunk, who could have told us of the distribution of the money collected, and the cost of the bust, and many little particulars that would have been interesting. The Secretary was also forgotten, who, discharging the labours of his office so assiduously as he had done, had not, doubtless, forgotten to come prepared with a history of the rise and progress and consummation of the whole affair ; and the recital of which would have done every heart good. These omissions, perhaps, may be repaired. “ The Veterinary Profession ” should not have been left to the chairman of a late hour : but the spell of the day is not yet broken, and we are silent.

And was there an individual who cherished a malignity of

spirit, that would not be lulled by the charm to which every other heart had yielded? There was one: but he vanished with the storm—the momentary storm he had raised; and we will leave him to his own reflections, and to the recollection of the strongly expressed opinion of many around him.

Y.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Bridgewater Treatises, No. 8. Chemistry, Meteorology, and the Function of Digestion. By WILLIAM PROUT, M.D. F.R.S.

THAT a knowledge of chemistry forms an indispensable part of a veterinary surgeon's education, no one can doubt, as it is so intimately connected with veterinary pharmacy; and a knowledge of the latter cannot be understood, nor practised with advantage, without a constant reference to the former. By veterinary pharmacy we mean the art of preparing, preserving, and compounding substances for the purposes of medicine. An acquaintance, therefore, with this science must be as essentially necessary to the veterinary surgeon as to the apothecary.

It is not necessary that a veterinary surgeon should enter into all the intricacies of chemical research; but it is absolutely necessary that he should be acquainted with the nature of drugs, the different affinities of substances, and the change produced by combination. Without this knowledge he will often err in the forms of preparations and compositions which he employs, and will be often deceived in the effects resulting from compositions, when he infers their properties from the known powers of the ingredients in their separate state.

How often is it imagined, that, in order to obtain a safe and efficacious medicine, nothing further is requisite than to jumble together a number of ingredients, without being aware that medicines, so mixed, often entirely change their nature, and acquire active powers which none of them possessed before. Again, many active substances are of such a nature that they could not, without imminent danger, be exhibited by themselves; but by very slight additions become efficacious medicines. To obtain the advantages that may be derived from such compositions, it is indispensably necessary that the practitioner has a knowledge of chemistry. Pharmaceutical chemistry, we are informed, is

more attended to at the Veterinary College than formerly. We are happy to hear of it. During our pupilage (about eleven years since), we had the opportunity, with others, of hearing the excellent lectures of Messrs. Brand and Faraday on Chemistry, and of Dr. Pearson on Materia Medica; but not one pupil out of ten that attended those lectures derived any benefit from them. The fault lay not in the lecturers, but in the pupils, since they could not comprehend what they heard. Their education had rarely extended far beyond reading and writing; their knowledge of medicine was confined to a few recipes for cordial, diuretic and purging balls, and of the qualities of even the few drugs that they employed they were entirely ignorant. Pharmacy was not then taught at the College; indeed, at this period, there was no such a book as a Veterinary Pharmacopœia. They are indebted, we are told, to their active and well-informed dispenser for a short one now. May he derive sufficient encouragement, and most of all from the heads of the institution, to induce him to enlarge and to complete it!

But chemistry is as applicable to other branches of our science as to veterinary pharmacy. It is intimately connected with *physiology*; and although, from the present state of our knowledge, it has not been proved to be of much service to *pathology* in a practical manner, yet the time will assuredly come when it will enable the practitioner to wield his remedies with a certainty and precision of which he has not now the slightest conception.

But we have forgotten the author and his treatise. The intention of the Bridgewater Treatises is to point out the various evidences of design among the objects of creation; and to deduce from them the existence and the attributes of the Creator. And well has Dr. Prout fulfilled the task imposed on him.

He has divided his treatise into three books.—*The first Book* contains preliminary observations on the rank of chemistry as a science, and its application to the argument of design. It treats of the mutual operation of physical agents and of matter, and of the laws which they obey: of the solid, liquid, and gaseous forms of bodies: of the properties of heat, light, &c.: of chemical elementary principles, and of the laws of their combination.—*The second Book* has reference to meteorology, comprehending a general sketch of the constitution of the globe, and of the distribution and mutual influence of the agents and elements of chemistry in the economy of nature.—*The third Book* treats of the chemistry of organization, particularly of the chemical process of digestion; and of the subsequent processes by which various alimentary substances are assimilated to and become component parts of a living body.

It would be a pleasing task to review the whole of this interesting work, but the limits of THE VETERINARIAN confine us to Book III, and even here we must necessarily be brief. We shall, however, endeavour to exhibit to our readers a few of the most striking facts which the author has detailed. He shews, in the first place, that the mechanical arrangements for reducing the food of animals are wonderfully varied, according to the peculiar qualities of their food.

In the *graminivorous* and *granivorous* tribes, for example, the teeth are literally instruments for grinding or triturating herbageous matters and seeds. In *carnivorous* animals, such a structure would be useless: the teeth, therefore, are suited only for cutting or tearing. In gnawing animals, the teeth present a totally different structure, but, at the same time, are admirably fitted to the habits of the animal. Occasionally, as in the fowl tribe of birds, the grinding apparatus is placed, not in the mouth, but in the stomach itself, this organ being, as it were, expressly contrived for trituration; while some of the functions it performs in other animals are transferred to contiguous parts. The structure and mechanism of the stomach, and of the alimentary canal, next claim attention. In *carnivorous* animals, whose food requires comparatively little assimilation, the alimentary canal is short and of a simple structure. On the other hand, in vegetable feeders, that canal is long and complicated, but perfectly adapted for macerating their food, and for extracting from it every thing that can be converted into nourishment. Nor is there an adherence to any model, but the whole is throughout varied, as if in order to demonstrate the power and the wisdom of Him by whom they were contrived. Thus the alimentary canals of the cow and of the horse are formed on entirely different models, though the food of both animals is nearly the same.

The author next proceeds to the consideration of the *chemical changes* which the food undergoes in the stomach and duodenum. In these changes we discover arrangements not less wonderful, indeed more so, than in those of structure and mechanism. The variety of forms assumed by bodies having the same essential composition produces a latitude in the choice of diet which is almost infinite; at the same time the organs being endowed with the power to discriminate all these differences, and to act on the ultimate principles of bodies, elaborate from all these various forms of matter the same uniform chyle. The power by which the stomach is enabled to effect these astonishing changes is that of associating the different alimentary substances with water—of dissolving or digesting them. This dissolving power seems to be exerted through the agency of chlorine derived from

the common salt in the blood ; at least, chlorine is always present in the stomach during the act of the solution of the food, though the precise mode in which it operates is still unknown. Contemporaneously with the act of solution of the food, such essential changes take place in its composition as are requisite for perfecting the future chyle.

The stomach having accomplished its office, the digested mass enters the duodenum, where the series of changes is continued in a manner equally wonderful. In this intestine or additional stomach the digested mass is brought into contact with the biliary and the pancreatic fluids. The alkali of the bile unites with the acid with which the food has been mingled during its digestion in the stomach ; the excrementitious parts, both of the food and of the bile, are separated or precipitated ; while, at the same time, the proper chylous principles are eliminated in a condition appropriate for their absorption by the lacteals.

There are two divisions of the minute tubes that compose what is termed the absorbent system of animals,—the lacteals, and the absorbents properly so called. The ultimate ramifications of the lacteals originate from the internal surface of the alimentary canal, where they take up the digested and partly assimilated aliment, or chyle. The ultimate ramifications of the proper absorbents originate from all parts of the body, and are enabled to take up by some peculiar process every component of the body, solid as well as fluid, in the same manner as the chyle is taken up by the lacteals. The fluid obtained from the lacteals, and that obtained from the proper absorbents, are both alike albuminous. The albumen of the chyle, the author clearly shews, is produced in the stomach and duodenum while the food is undergoing the process of digestion. But whence is the albumen derived that is found in the proper absorbents ? The animal body we know to be composed of a great variety of matters, among which gelatine predominates. Now, since albumen only is found in the absorbents, it follows that, before the gelatine of the body is taken up by the absorbents, it is reconverted into albumen ; in other words, the absorbed gelatine undergoes a process entirely analogous to that which gelatine and other matters undergo in the stomach and duodenum during the process of digestion. Hence the digestive process, instead of being confined to the stomach and duodenum, is actually carried on without intermission in all parts of a living body. The two kinds of fluid albumen derived from these two sources, that is to say, the crude chyle in the lacteals, and the highly animalized lymph in the absorbents—are at length commingled, and form one uniform

fluid of an intermediate character, adapted for becoming a part of the general mass of the blood.

The character, however, of the fluid, when it becomes part of the blood, though albuminous, is still very *weak*; or, in other words, the fluid consists of albumen holding a large proportion of water in a state of essential combination. By a beautiful arrangement, as soon as this weak albuminous fluid is mingled with the blood, it is hurried through the lungs, where it undergoes a remarkable change. In the lungs, the water, which is an essential union with the weak albuminous matter of the chyle, is separated and expelled along with the carbonic acid gas, that is continually escaping from these organs; and, at the same time, the weak and delicate albuminous matter of the chyle is converted into the strong and firm albuminous matter of the blood.

We must refer the reader who wishes for a more minute information on the subject, to the work itself.

The following short table exhibits the relative proportions of the constitution of human blood to each other, as they exist in most individuals:—

One thousand parts of human blood contain

Of water.....	783,37
Fibrin	2,83
Albumen	67,25
Colouring matters	126,31
Fatty matters, in various states	5,16
Various undefined animal matters and salts	15,08
	<hr/>
	1000,00

The reader will not fail to remark that, among these constituent principles of the blood, *gelatine* is not mentioned. “In fact,” says the author, “though existing most abundantly in various animal structures, *gelatine is never found in the blood, or in any product of glandular secretion.*” The author then proceeds to plain that *gelatine* ranks lower than albumen in the scale of organized substances; that a given weight of *gelatine* contains, at least, three or four per cent. less carbon than an equal weight of albumen. The production of *gelatine* from albumen must, therefore, be a *reducing* process.

We are now brought to consider the process of respiration. The blood, in its course through the lungs, emits carbonic acid gas, and assumes a florid arterial colour. At the same time, according to the principles of gaseous diffusion, the blood absorbs in the lungs a portion of oxygen from the air of the atmosphere. The oxygen thus absorbed remains in some peculiar state of union with the blood (query, as oxygenated water, or some ana-

logous compound?) till the blood reaches the ultimate termination of the arteries. In these minute tubes the oxygen changes its mode of union; it combines with a portion of carbon, and is converted into carbonic acid, which carbon must be derived from the albuminous principles of the blood. Two distinct alterations take place during the union of the carbon with the oxygen; a portion of the albumen contained in the blood is supposed to be reduced to the state of gelatine, which gelatine is appropriated to the production and renovation of those textures whose composition is chiefly gelatinous. At the same time, the carbonic acid which had been formed from the reduced albumen unites with the blood, communicates to that fluid its dark *venous* colour, and is transferred to the lungs, where it is expelled from the system along with a portion of aqueous vapour, derived principally from the weak albumen of the chyle, as formerly explained.

The blood is the source, not only of all the constituent principles of animal bodies, but likewise of all the various *secretions*; many of which differ altogether in their properties from those of the primary fluids, and perform secondary offices of great importance in the animal economy. Other products separated from the blood are purely *excretions*; as, for instance, the carbonic acid gas from the lungs, which could not be retained in the animal system without destroying life.

Such is a summary of those operations of living bodies which the author has presented in the 3d Book. We have been brief, but we hope intelligible.

Most of the facts on which the author has dwelt are of a character so obvious, that they require only to be understood, in order to be admitted among the proofs of benevolent design.

In considering the economy of organized being, one of the circumstances most calculated to arrest our attention, is the extraordinary skill manifested in the disposal of the various parts of the organized system with regard to each other. As an instance of this, the mutual relation and dependence of plants and animals may be noticed. Thus, as we once before had the pleasure of pointing out in *THE VETERINARIAN*, carbonic acid gas constitutes the chief food of plants; and nearly the whole of the superfluous carbon produced by the operations of the animal system is actually thrown off in the form of carbonic acid. Plants, therefore, on the one hand, supply the chief nourishment to animals; while that gaseous matter which is separated by the animal economy, and which, if retained within animals, would to them be fatal, constitutes, on the other hand, the chief food of plants.

Nor in these respects only are the two great systems of organization mutually dependent; for unless plants consumed the carbonic acid gas which is formed by animals, the deleterious compound would probably accumulate in the atmosphere, so as to destroy animal life; while it is doubtful whether the present race of vegetables could exist if carbonic acid gas were not formed by animals.

Again, the general scheme of Providence for the nourishment of animals claims our especial notice. Animals have not only been destined to prey on each other, but all created beings are the food of those progressively higher than themselves in the scale of organization. By this wise arrangement, the labour of the assimilating power has been greatly diminished; and by the same means, that accumulation of dead animal remains, which soon would be overwhelming, is entirely prevented.

To the veterinary pupil we particularly recommend the study of this work of Dr. Prout's. The times are altered from what they were formerly. A veterinary surgeon is now expected to be a scientific man, and the practice of our science cannot any longer be entrusted to ignorant pretenders. The present is an age rich with discoveries that distribute the blessings of freedom and power. Modern veterinary medicine differs from the ancient in this;—the ancient was nothing but conjecture—the modern is distinguished by facts drawn from legitimate inferences. The study of the veterinary pupil must, therefore, be directed for the future not only to anatomy and physiology, but to chemistry.

K.

TO CORRESPONDENTS.

WE acknowledge the receipt of Communications on various matters, practical and personal, from Messrs. Baker, Barker, Bisset, Cleland, Fuller, Godwin, Holmes, Read, Sinclair, Toombs, Williams, and several anonymous correspondents (why anonymous?): they shall receive due attention.

The Spring Dinner of the Veterinary Club will take place at the King's Arms, Bridge Street, Westminster, on Thursday, April the 16th, at Half-past Five o'Clock, precisely. Tickets 20s. In accordance with the principle on which the society is founded—the promotion of good feeling among the members of the same profession—the spring dinner has usually been an open one.

The Club will be happy to see any of their brethren, or the friends of the profession, on that day, provided they will have the kindness to send a notice to the Secretary, at the Bar of the Tavern, on or before the noon of Tuesday, the 14th.

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MR. YOUATT'S VETERINARY LECTURES
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LECTURE XLVII (continued).

The Causes of Tetanus.

THESE have been divided by medical writers into idiopathic and symptomatic. I would consent to acknowledge this division so far as it is generally explained; meaning by idiopathic, causes which are either unknown, or which must be referred to some general agent influencing the whole system, as cold, worms, &c.; and symptomatic, including local causes, as wounds generally—pricks in the foot—docking—nicking—the exposure of some particular part to cold; although I should observe that the term idiopathic is scarcely an appropriate one in any case. I cannot help referring the morbid action of cold, worms, &c. to some definite part, and to the lungs or the skin, or the intestinal canal, more than to any other. The truth however is, that we have comparatively few cases of idiopathic tetanus in our patients; we can usually trace the original irritation or inflammation of the nervous fibril to some particular spot, whence it was mysteriously transferred to a distant part.

The usual Causes.—If I were to select one part as more than any other the source and focus of tetanic irritation, it would be the foot. Wounds in it—a stub left in shoeing—a prick in shoeing—a stub picked up on a journey—a piece of glass wounding the frog or penetrating to the flexor tendon, these are the prevailing sources. The horse becomes lame—the evil is discovered—it is carelessly treated—the lameness disappears—the wound, however, has not healed: when examined, there is an unhealthiness about it—a want of life in the neighbouring substance and vessels—and then, eight or ten days after the injury, (if three weeks had passed, all would have been safe), locked-jaw appears.

Old Sollysel, the Equerry to the French king, whose "Complete Horseman" you may read with pleasure and advantage too, after you have been well grounded in practice and are able to select that which is really valuable (and there is a great deal of it in his book) from what is, in the present day, most ludicrously absurd, had no notion of tetanus proceeding from wounds. He considered it as a kind of rheumatism, brought on sometimes by violent exertion, in which they ("the horses") "strain and stretch the muscles of the neck so as to draw the humours to them; or oftener from cold, for the sudden change stirs the redundant humours, and breeds many obstructions that hinder the motion of the affected parts, and cause a pain not only in these, but also in the neighbouring parts." Therefore his remedy, next to bleeding, is to take a stimulating embrocation, and chafe the parts very hard with the hand "to make the liquor penetrate; which will heat the muscles that are cooled and stiffened by the defluxion, and so loosen the jaws and supple the neck."

Difficult to be accounted for.—Why does not the nerve of the immediate part, or those of the neighbouring ones, first take on the inflammatory action? Probably they do. Then why do not the muscular spasms first appear in the neighbourhood of the wound? I will not answer that there are no muscles in the immediate neighbourhood, because this would not apply when tetanus follows nicking or docking. I can only reply, that there is an anastomosis of nervous fibrils all over the frame; designed, doubtless, for a good purpose, and possibly to keep up an identity of influence everywhere. Whatever portion of the nerves of the foot may be injured, there is a connexion and communication between that and the nerve which supplies the most distant part, effected partly by means of the spinal chord, more effectually probably through the medium of the intercostals, and also by endless anastomoses between the different branches of the nerves everywhere.

But this you will tell me is no answer—why select a distant part, the nerves of the head and neck? I can only say, that nature seems fond of these distant sympathies, and that, to a greater extent than we are aware, and which we do not always turn to the account which we might in the treatment of disease. I have ever been subject to the sick headache—what is the harbinger of its approach? Cold feet. What the first symptom of its preparation to depart? The return of the natural warmth of the extremities. I get wet feet; do I suffer from it in my feet or legs? no, but I reckon on a fit of the toothache, or a sore throat on the following day. There is an uninterrupted chain of nervous communication through the whole frame, and nature

is fond of connecting together, in influence at least, the most distant links of that chain.

The Causes resumed.—The undeniably symptomatic causes of tetanus, then, are, irritation or inflammation of some nervous fibril, cut or injured by means of an operation or accidental wound; and oftener in the feet than any or every other part of the frame.

Wounds in the Feet.—With regard to wounds of the feet, I have often thought that we treat them far too carelessly. We open them, give free vent to the effused matter, apply a poultice or two, and then endeavour to heal the wound as quickly as we can by the application of the Friars' balsam, or the tincture of myrrh. The old farrier goes to work in a very rude way, but a much better one; he also opens the foot and gives vent to the pus, and then he places a pledget of tow on the wound, saturates it with spirit of turpentine, and sets fire to it. This leaves a crust upon the wound, which rarely separates from it, and gradually changes into good horn. He makes a summary business of it, and, what is most important of all, he either destroys the lacerated or injured nervous fibril, which might by-and-by be the focus of mischief, or sets up a degree of temporary irritation in the part inconsistent with, or preventing the access of, that irritability which runs on to tetanus.

The Treatment of Wounds in the Feet continued.—It would be a good rule that the surface of every wound in the foot should be exposed to the power of some caustic. The chloride of antimony is the most manageable and the best. We should generally gain time by causing a disposition in the part to throw out new and good horn; while, at the same time, we should destroy or deaden the exposed fibril of the nerve. The last case of tetanus which I had I could plainly trace to neglect of this kind. The horse was lame four or five days after shoeing; and after some protracted examination, a very small stub of a nail was discovered, which the careless smith had suffered to remain, and close upon which he had driven the new nail. It was extracted, and I satisfactorily ascertained that there was no wound, but that the lameness had been occasioned by the pressure of the two nails on the sensible laminæ. The shoe was put on again, the bearing taken from the place, no nail driven there, and the horse did not go lame afterwards: but on the 7th day subsequent to the examination, he began to exhibit symptoms of tetanus. He recovered after a hard struggle; but had I freely opened the foot, and applied the chloride of antimony, he would not have been endangered at all.

Docking and Nicking.—Next to the injuries of the foot we

place docking, especially if the stump has been seared too severely; and nicking, if the first bandage has not been loosened or removed sufficiently early: but, after both these operations it occasionally appears without any assignable cause, and without the possibility of attributing any blame to the operator. The atmosphere, either its temperature or variable composition (and I am often inclined to think, the latter more than the former), has influence. Several horses will die one after the other in the same stables, or the same district, in consequence of these operations; and after that years will elapse before this dreadful disease will again appear.

Castration, when the colt was not properly prepared for the operation, or the searing iron was applied too severely, or the clams bound or screwed too tight, or the animal put to work too soon after the operation, or exposed to unusual cold, is occasionally followed by tetanus. Hurtrel d'Arboval relates that twenty-four horses were castrated on the same day, at the dépôt at Bec, in the department of l'Eure. By some strange fancy of the riding-master, they were afterwards led, four times in every day, through a deep pond of water, that was supplied by a very cold spring. Sixteen of them died of tetanus between the 10th and 15th day after the operation. At Rennes, a horse, after castration, was exercised until he was covered with perspiration, and then suddenly plunged into the river. He died tetanic. He had been previously condemned, and this was done by way of experiment. Hurtrel d'Arboval also states, and they are very important facts, that the Americans used to have recourse to the cautery in the castration of their horses and mules, and that tetanus was so frequent, that the price of the horse or mule became doubled when he had recovered from the operation; and that bulls in whom the hemorrhage was arrested by the application of a caustic, were not exempt from fatal attacks of tetanus after castration. He also adds, that M. Gélin, an American veterinary surgeon, has assured him, that this disease never attacks those that are operated on by the use of the clams in the uncovered way.

Tetanus cured by Castration.—While castration appears to be so frequent a cause of tetanus, M. Taffanel has inserted in the *Recueil de Méd. Vét.* for August 1830, an account of the cure of tetanus by this operation. An entire horse, nine years old, which had always been most annoyingly salacious, was suddenly seized with tetanus from some cause perfectly unknown. The usual means were adopted, but the 14th day arrived, and the animal became worse and worse; every muscle was fixed, and the breathing so laborious as to threaten immediate death. In the

early period of the disease, the horse had not, even amidst his extremity of suffering, forgotten his old propensities, and had neighed whenever a mare approached, and had endeavoured as well as he could to join her. M. Taffanel happened now to meet with a fellow practitioner, to whom he related the circumstances of the case. His friend told him that he had had an entire horse under treatment for tetanus under very similar circumstances, and that, all other means failing, he had castrated him, and cured him too. It was determined that this patient should submit to the operation, and perhaps under the circumstances the most judicious mode of operating was adopted—namely, that of torsion and tearing of the chord. The horse could not be securely hobbled on account of his extreme irritability, and therefore it happened that the chord of the left testicle was not sufficiently twisted, and it bled for four hours, and eight pounds of blood were lost. During the operation, the horse uttered the most plaintive cries; the muscles of the face and of the abdomen were even more violently contracted than before; the breathing became much more laborious, and it seemed to be impossible that he could survive, but all this quieted down. On the second day, the tetanic spasm was so diminished that he could eat a little green meat; and on the fifteenth day after the operation, he was dismissed cured. This was applying the principle of counter-irritation with a vengeance: it belongs, however, to another part of my subject.

Over-fatigue, exciting causes, and sudden change of temperature.—Our scanty records of veterinary matters contain numerous instances of tetanus following exertion brutally exacted beyond the animal's natural strength, in the draught of heavy loads. Horses that have been matched against time have too frequently died tetanic a little while afterwards. Sudden exposure to cold, after being heated by exercise, has produced this dreadful state of nervous action, and especially if the horse has stood in a partial draught; but of all the causes of this nature, the dripping of cold water upon the loins has been the most fatal, with the exception, perhaps, of the animal's drinking his fill of cold water when he was profusely perspiring after exercise.

Diseases producing or followed by Tetanus.—I might present you with a long list of these. There is scarcely a disease that has not been complicated with tetanic symptoms in some of its stages. Many have degenerated into, or have yielded to the overwhelming power of this dreadful spasm. *Suppressed strangles* have not unfrequently been followed by tetanus; and there is one case in which, although the tumour suppurated, the discharge was not so great as it ought to have been, and tetanus closely

followed the healing of the wound. *Worms* have been accused, and not always falsely, of being the exciting cause of this disease. The teres, and even the ascaris, may produce sufficient disturbance in the intestinal canal to cause, in irritable habits, even tetanus itself; but we must acquit the *harmless yet dreaded* bot, who only occupies that habitation which nature designed him for, while preparing to assume his perfect form. I have seen one case, and there is the record of another, in which *glossanthrax* either accompanied or was the cause of tetanus. I certainly used boldly, and to their full extent, the usual means for quieting this fearful nervous erythism; but I added to it, so far as the nearly closed state of the jaws would permit me, the deep lancing of the vesicles beneath the tongue, and that from end to end. They speedily disappeared; the violence of the tetanic spasm began soon afterwards to remit, and the horse recovered. *Distention of the Stomach* has been accompanied by tetanus. We do not often see a case of staggers, of the violent kind, in which there are not occasional spasmodic contractions of the muscles, that bear no little resemblance to tetanus; and in a few cases the lesser disturbance of the nervous system has merged in the greater one. *Chronic cough and a tuberculated state* of the lungs, accompanied by breathing unusually laborious, have had this termination; and the sudden absorption of pus, whether from vomicae of the lungs or abscesses of any kind, have thrown a weight on the constitution, the effort to get rid of which has produced a state of general irritation terminating in tetanus. *The irritability of weakness* has been followed by the same effect. A horse was evidently recovering from some disease of long continuance, and of an enfeebling nature, and nothing but common care was wanted to ensure the return of perfect health: the animal, however, was exposed to some circumstances of excitement; he worked too early and too much, or he was suffered to gorge himself with food, and then all at once tetanus came on, and he was irrecoverably lost.

THE RE-ABSORPTION OF PUS AN IMMEDIATE CAUSE OF FARCY.

By PROFESSOR RENAULT, *Alfort*.

IN a former article I endeavoured to prove, 1st, That pus existing in *certain conditions*, either enveloped in tissues, or on the surface of a wound, might be absorbed *by the veins*, and give birth to a series of accidents, of which farcy would often be the result.

2d, That if the absorption of pus could not be demonstrated by its existence in its proper form in the blood, it was because it was mingled with that fluid in a manner so intimate as not to be distinguished from it; but that, nevertheless,

3d, It impressed on the blood with which it was mingled new qualities and properties easily appreciable; and which, if they were not actual proofs of the absorption of pus, rendered it very probable.

4th, That these proofs acquired new force when the animal presented, during the suppurative course, certain additional phenomena (*épiphénomènes*), as cough, beating of the heart, &c., which are not ordinarily remarked while suppuration is going forward; and especially when, after death, we meet, in certain organs, with little purulent masses, with or without ecchymoses, and deposited in the substance of a tissue generally in a sound state; and proving, at once, that that tissue could not have secreted the pus, and that it could not have been long in contact with it.

In the present article I shall endeavour to prove (and here the demonstration will be more rigorous) that, in the horse, the absorption of pus often takes place by means of *the lymphatic vessels*, and gives rise to a well-known variety of that disease so common and so fatal, Farcy.

It being my object, in this article, to exhibit farcy in relation with the absorption of pus, I shall pass rapidly over the symptoms and treatment of the various cases.

CASE I.

A cabriolet gelding, ten years old.

Inquiries.—He was brought to the infirmary on account of lameness in the right fore leg. Independently of this, the owner said that he had had him two years; that he was at first very much out of condition, and had been long in regaining it; and that, although he was now better in that respect, he coughed, and discharged from the nostril whenever he was worked hard.

Present State.—He knuckled in the fetlock of the lame leg, and the perforans tendon was much retracted. Seeing no other cause of lameness, a division of the tendon was recommended, to which the owner consented.

Dec. 11th, 1833.—After having, during some preceding days, been prepared for the operation, he was cast, and the tendons divided without the slightest accident. Two sutures confined the edges of the wound; three pledgets covered it, and were confined by several turns of bandage. Some degree of fever deve-

loped itself in the evening; there was evident local pain, and swelling as high as the knee; six pounds of blood were abstracted, and the diet and the lotions were of a cooling nature.

During the two following days the pain seemed to abate, but the engorgement remained. Continue the treatment.

14th.—Some pus escaped from the wound. It was yellow, sero-grumous, and had an offensive odour. The swelling of the knee continued; much less heat and pain. Simple digestive ointment to the wound, and frictions of camphorated spirit over the swelling.

16th.—Morning. Granulations begin to appear; the suppuration is abundant, but it is limpid and foetid. Eleven o'clock: Evident symptoms of fever. Take six pounds of blood from the right arm. This bleeding produced some remission of the symptoms, but the engorgement now extends up the right arm.

17th.—I now recognized a painful enlargement, elongated, extending from the protuberance formed by the sterno-humeral muscle (*pectoralis transversus*), and going round the internal face of the fore arm to the subcutaneous thoracic vein on the same side. On the right side of the neck, and at its base, there was developed, and already softened, a large button, with a knotty cord continued from it fifteen inches in length. Neither the button nor the cord existed on the preceding night. The pus is abundant, unmixed, and yellow, and the wound is of a pale colour. The swelling has not diminished.

The horse has acute farcy.

Every attention was paid to the horse during several following days. The wound and the pus retained the same characters; but the left leg began to swell in its turn, and a farcy button developed itself on that leg, and softened and suppurated in the space of seven hours. A cord then appeared on the ala of the right nostril: there were ganglions beneath the jaw, which increased; a button, of the size of a small nut, appeared on the septum of the nose, the membrane of which was of a deep yellowish red colour. Discharge then commenced from the left nostril: the fluid that was thus discharged, as well as that which came from the different buttons, whether they opened spontaneously or were lanced, had the colour and consistence of that which proceeded from the wound of the tendon. Acute glanders was established. Seven or eight cords now appeared on the right arm, following the course of the lymphatics, and which were decisive indications of farcy. Finally, tumefaction of the hind limbs followed, and increased enlargement of the fore ones, on the skin of which little tumours began to form in great numbers: they broke, and a fluid

similar to that from the wound escaped from them. Such were the chief exterior lesions which appeared until the 26th, when the horse died.

It may be proper to remark, that from the appearance of farcy to the death of the animal *the pulsations of the heart were unusually powerful.*

Examination, six hours after death.—Of the lesions which bore more especially on the fact of the absorption of pus, the following were the chief:—*the lymphatic vessels* emanating from the wound of the tendon, as well as those that were in the neighbourhood of the softened buttons, were surrounded with infiltrated cellular texture, *filled with white matter of a caseous consistence, and having the character of pus.*

It is true that the veins coming from the diseased limb did not contain pus; but the blood which they contained was firmly coagulated and *divided into two clots, perfectly distinct and separate from each other; the one white, firm, difficult to crush, and reflecting a light green shade; the other black and solid, but of much less consistence.*

The heart presented some ecchymoses on its surface, particularly around the coronary vessels. *The right cavities were occupied by an enormous clot, hard, torn by strong pressure, and suffering a citron-coloured serosity to escape.* This clot, exactly moulded to the internal surface of the ventricle and the auricle, prolonged itself into the anterior and posterior venæ cavæ. In the latter vessels only it was united with a small black clot.

The left cavities contained only a small coagulum, black and white. No alteration was observed on the interior serous membrane of the heart.

The spleen, much enlarged, was soft; the blood which it contained was black, thick, patchy, and readily escaped on slight pressure when an incision was made into this viscus.

Many small ecchymoses were perceived here and there in the substance of the left lobe. There were found, besides, more than twenty little masses of concrete pus, easily crushed by the fingers, and surrounded, some of them, by pulmonary tissue slightly ecchymosed, and others by tissue perfectly sound: none were encysted.

In the right lung these masses were more numerous, and nearer together. *In the centre of some was pus already softened. The cellular interlobular tissue, which surrounded these masses, was infiltrated by a great quantity of citron-coloured serosity, which established between them and the farcy buttons a very striking analogy.* The pus that constituted these masses being collected and compared with that drawn from the farcy-buttons, and from the lymphatics, was most like the latter.

CASE II.

A hackney gelding, eleven or twelve years old.

Inquiries.—This horse had been bled nearly three weeks before. A few days afterwards, and, doubtless, in consequence of the part being rubbed against the manger, thrombus began to develope itself; and, notwithstanding proper measures were immediately adopted, it was impossible to disperse it. An abscess formed and burst spontaneously, and there ran from it pus holding in suspension fibrous flocculi and remnants of the coat of the vein. Then the tumour gradually disappeared; but a fistulous opening remained, with its direction upwards to an extent of five or six inches. Soon afterwards a new tumour appeared between the point where the first had burst and the parotidean region, and the horse began to cough. These two circumstances decided the proprietor to send his horse to Alfort on the 9th of May.

14th.—The tumour in the neck begins to fluctuate.

17th.—It was punctured; the pus which escaped was laudable, but a little thin. The cough continues.

23d.—The wounds suppurate well; but the pus that flows from the fistula, which now extends under the parotid gland, is grey, and very thin.

24th.—*Serous infiltrations under the form of large cords* are seen along the course of the veins of the arm, the fore-arm, and the saphenas. *Œdema appears on the posterior limbs and under the belly.* The cough increases.

25th and 26th.—These enlarged cords now take upon them all the characters of farcy. A button, which appeared only a few hours before on the left hinder extremity, has broken, and a yellow serous fluid escapes from it. A similar button has formed, and opened on the inside of the right thigh. New farcy cords develope themselves on the inside of the left fore-arm.

July 1st.—Farcy buttons are numerous over the whole surface of the body. The cough continues. For some time the animal has lost its appetite, and is perceptibly getting thin. The wound occasioned by the opening of the tumour, and which before the appearance of the buttons was very much diminished, is now stationary: it is pale; and the pus that is discharged from it is thin, and small in quantity.

5th.—A discharge from the nose has commenced.

6th.—A new abscess was opened, which has appeared above the former one, and near the parotid gland. The pus that it contained was thin and grey: remnants of a vein are held in suspension in this discharge.

15th.—The discharge from the nose has increased. A sanious

fluid of very bad character runs from most of the buttons that have been cauterized.

19th.—The animal is in a state of extreme emaciation. He no longer feeds. Another swelling, with deep fluctuation, announces a fresh abscess in the very substance of the parotid. The animal was destroyed, the consent of the owner being obtained.

Examination.—Every lesion characteristic of farcy was found in the cellular tissue, the vessels, and the lymphatic ganglions.

The lungs contained *a great quantity of small purulent masses, in every point resembling the buttons of subcutaneous farcy.* Some of these little masses, softer and consequently older than the others, had begun to surround themselves with cysts; others, the consistence of which was yet caseous, were surrounded by hepatized pulmonary tissue. *For the most part the smallest of them were surrounded by tissue either entirely sound, or simply ecchymosed.*

CASE III.

An entire draught horse, ten years old, was brought to the infirmary to be treated for a suppurating wound of the withers.

History.—Twelve or fifteen days before, a voluminous cyst appeared on the withers, the consequence of rubbing it. A veterinarian, called in a few days afterwards, instead of treating the tumour by resolutives, punctured it at once. The wound suppurated abundantly, and the skin peeled off for the space of nearly a foot from the superior part and right side of the withers. On the left side there was a slight engorgement, with a little fluctuation; but there was no communication between the two abscesses.

From the 6th of January to the 2d of March various means were tried; but the cicatrization was not more advanced than on the first day. More than once during that interval the attendants thought that the cure would soon be complete, for the fistula diminished in depth; the skin appeared to adhere to the parts beneath over almost the whole of the withers; the quantity of pus discharged diminished, and it became very thick, and the swelling had nearly subsided, when, taking advantage of a moment during which he was not watched, the animal rubbed it again: every precaution and every care that had been taken was defeated, and the evil reappeared worse than ever.

March 6th.—On sounding the right fistula anew, it appeared that it extended on the left side at least four inches from the median plane. A counter overture was made on that spot, and a seton was passed through it and carried to the inferior portion of the right side.

Until the 13th of April the horse was alternately better and

worse, accordingly as he was placed where he could or could not rub himself. During the whole of this time the pus had a serous character, the animal *coughed*, and the cough, *dry at first*, became *moist*, and *was accompanied by expectoration*. It was also remarked, that the coat staled, and that the appetite was impaired. Over the left side of the withers, and below the superior orifice of a fistula which existed on that side, commenced a farcy cord, which extended to the scapulo-humeral angle. Apply to this cord a mixture of one part of corrosive sublimate with eight of turpentine.

15th.—The cord has extended itself two inches lower down. Apply the same mixture to the continuation of the cord.

18th.—The cord has disappeared.

25th.—The horse, abandoned by its owner, was bled to death.

Examination.—Among other lesions, *we found in the substance of the right lung many little masses of a greyish white matter, crushing easily under the finger, not encysted, but surrounded by cellular tissue, congested, yet crepitating.*

CASE IV.

An entire draught horse.

This horse was sent to the infirmary on account of a thrombus in the left jugular. It is accompanied by suppuration. A considerable swelling exists at the parotid region, and a fistula, having its orifice at the wound made in bleedings, extends, following the vein, as high as this swelling. After twenty-three days' treatment, the swelling having completely disappeared and the suppuration being less abundant and quite laudable, the horse was restored to the owner, who was instructed how to apply the future dressing; but the swelling returning, and sanious matter escaping from the old fistula, he was sent to Alfort: thence he was taken away before the wounds were quite healed, and contrary to the wishes of the Professor, and was finally brought back on the 11th July, the old fistula discharging grey and thin pus. The glands under the jaw soon began to enlarge—farcy buttons appeared on various parts—farcy cords ran over the left side—the membrane of the nose became affected—there was considerable discharge from the nose, and in that state he was again taken away by the owner*.

CASE V.

An entire horse, fourteen years old, also had tumour on the withers; which, however, had considerably subsided under emol-

* This last case we have abridged, and want of room compels us to abridge those which follow.—EDIT.

lient treatment; when on the 15th day, a farcy cord appeared in its neighbourhood. The cord soon acquired several little nodes along it—the legs began to swell—and the strength of the horse seemed to waste. The tumour was opened, and a considerable quantity of thick yellow pus, mingled with bloody striæ escaped, and the cautery was applied over the inner surface of the abscess. The buttons on the cord were also scarified and cauterized.

The horse remained in the hospital a month, and then was taken away; the farcy cord had disappeared, and nothing remained but two or three small buttons surrounding a hardened kernel of cellular tissue which occupied the place where the incision into the abscess had been made. The horse was afterwards lost sight of.

CASE VI.

An entire horse had a tumour on the point of the shoulder, occasioned by the pressure of the collar. After various fomentations by the owner, the tenderness and heat had in a great measure disappeared, and the tumour had become hard, but had not diminished in size. A sharp-pointed iron was plunged into various parts of it, and through its whole depth. Three weeks afterwards the wounds had nearly healed, and the tumour had disappeared, except one hard button, a little softened towards its centre, and from which a hard cord extended towards the chest. This was cauterized with the budding-iron.

On examining the horse more closely on the following morning, a considerable number of small buttons were found on various parts of him, and almost entirely on the right side. Some were continued in a kind of line. They were scarified, and corrosive sublimate and turpentine applied to them. The horse left the hospital forty-four days after his first arrival. The farcy buttons had disappeared, and nothing remained but this deeply-seated induration at the point of the shoulder, and which could not have been removed without making a large and deep wound. M. Renault, however, did not deem it prudent to do this after symptoms of farcy had developed themselves.

CASE VII.

An entire horse, seven years old, had been bitten in the neck by another horse. The postillion continued to work him—the wound became serious—and the animal was sent to Alfort. On examination, it appeared that sinuses now penetrated between the muscles of the neck, and a little pouch had been formed in which the pus had collected, and remained for some time. From

the lower lip of the wound there ran a long, hard, knotted cord, and which had increased two inches in length since the last night: a slight infiltration existed round this cord, and there could not be any doubt that it was a true farcy cord. The wound was cleansed with the chloride of lime, and the corrosive sublimate and turpentine applied to the cord. The wound afterwards looked well; but the cord lengthened until it measured at least a foot. The horse was cast, and the cord dissected out, and the hot iron applied over the whole extent of the wound.

Twenty-three days after the operation, the wound, from having been more than a foot long, was reduced to three inches, and a fortnight afterwards it was completely cicatrized, and the horse was sent to work.

This horse had scarcely been cured when the same accident happened to one of his companions in the same establishment. He was bitten in the throat: the wound was deep, and almost reached the trachea. Here also the pus that was formed had not free escape, and it accumulated under the skin; and in eight days after the bite there was a manifest farcy cord extending down the neck, and almost reaching the ganglions at the entrance into the chest. Two inches of the lower part of this cord were excised, and the hot iron applied, and the same care was taken, both in the operation and the dressing, that had been used in the last operation, that it might not be possible for the pus to be arrested in its course, especially before it had acquired good consistence; for the cause that had once produced the evil might do so again. In five weeks the horse was well.

CASE VIII.

A gelding, fourteen years old. Eight days before, a tumour was observed on the neck, produced by the pressure of the collar: fluctuation was evident—the skin on the summit of it was of a blue colour, and from its base, the skin around which was œdematous, proceeded a farcy cord directing its course towards the ganglions of the chest. The tumour was opened, and the cord thoroughly covered with a mixture of corrosive sublimate and turpentine. From that moment the cord ceased to extend itself, and, indeed, soon disappeared; and in thirty days the horse was dismissed from the infirmary.

CASE IX.

A mare had, twenty days before, shewn some difficulty in swallowing. A swelling was soon evident in the parotid region on both sides of the throat. A little while afterwards that on the left side disappeared, but the other continued to increase

until it had attained a very considerable size. After that it no longer increased, but became softer every day. On examining her with attention, a long farcy cord was discovered, deeply seated, going from the inferior part of the swelling, and directing its course towards the ganglions at the entrance into the chest; and these were so much enlarged, that their situation could be plainly seen.

The tumour was opened, and nearly two pounds of pus escaped. As for the farcy, M. R. despaired to arrest its progress, since the cord had reached these ganglions; and they, by their enlargement, proved that they were already affected: he, however, attempted to prevent the arrival of more of the poison, and he made an incision at the entrance into the chest, and cut out an inch, at least, of the indurated cord. This was some days before he composed the interesting memoir which we have laid before our readers, and when it was sent to the press he had not heard the result of his operation.

Recueil, Aug. 1834.

FUNGUS HÆMATODES IN THE EYE OF A MARE.

By Mr. W. J. GODWIN, V.S., Birmingham.

ON *Feb. 2, 1833*, I was requested by J. Walker, a farrier in Lichfield, to see a case for him which he been attending, viz. "a mare (to use his own words), out of whose near eye some proud flesh had grown, until it had turned the eye inside out. He had at different times cut and causticed some pounds away; but it grew as large as ever again in a very short time, and bled a good deal whenever it was touched."

I went with him, and found a fungoid tumour growing from the near orbit; soft, but resuming its shape after the removal of pressure; and bleeding considerably after examination. Upon inquiry, I learned that the tumour had existed five or six months; but she had been blind of the eye affected several months previous to the appearance of the tumour. The ball of the eye, in the first instance, was noticed to have become considerably enlarged, and this increased until the cornea burst, when a small vascular tumour protruded, forcing before it the contents of the sclerotica, and distending this tunic to such an extent as to cause the farrier's assertion of the "eye having been turned inside out;" a description of the case not so inappropriate as, in the first instance, it appeared to be. From this period it grew in size rapidly: portions of it had been removed several times by

different means; and her health had continued pretty good until within the last few weeks, when the bleeding had become more considerable, and she exhibited, by coma and other symptoms, indications of the brain having become affected. Judging from the appearance of the tumour, with its disposition to bleed so profusely, and the fact of its having been formed in the interior of the eye, I concluded it was not of an ordinary description; and, suspecting it to be a case of fungus hæmatodes, I requested Mr. Alport, surgeon, residing in Lichfield, to see it with me, who pronounced it to bear all the specific characters of that disease in the human subject.

I had previously determined upon extirpating it with the whole of the contents of the orbit, and which was now effected. I found it necessary, in consequence of the superiority in size of the tumour to that of the orbit, to dissect a portion of it away, level with the orbital margin, before I could make it practicable to remove that which was contained within the orbit. With some difficulty, owing to an immense hemorrhage, the whole was extirpated, weighing about two pounds. The sclerotica within the orbit was filled with firm medullary matter of a yellowish colour; the optic nerve had its usual appearance; but there was no trace of any of the other component parts of the eye. The portion that was first dissected away had a somewhat similar though darker appearance towards its centre; and became very vascular towards its exterior. The orbit was filled with tow after the operation, and a bandage applied to retain it. The mare had physic, and was sent home.

I saw her two days afterwards, when she was swollen pretty much about the parotid gland and top of the head. These parts were fomented, and physic was given, which operated well. I did not see her again, but understood from the farrier who attended her, that the swelling increased until about the seventh day after the operation, when the comatose symptoms became more apparent, and she died in three weeks from that time. The tumour was larger than it had ever been, which appeared more extraordinary, as I considered that I had removed the whole of the tunic from which it had originated. He opened the head, and found the brain very soft, and containing much serous fluid.

ON THE DANGER OF BLEEDING, AND THE ADVANTAGE OF ADMINISTERING EMETIC TARTAR IN STAGGERS (VERTIGO) IN THE HORSE.

By M. PHILIPPE, M.V., Militaire.

THE frequent occurrence of vertigo (staggers) in the horse, and (whether from the serious character of the disease, or the nature of the treatment which is employed, or the difference of opinion which exists as to what that treatment ought to be) the frequency with which it bids defiance to all the resources of art, induce me to relate some facts that have occurred in my practice.

At the commencement of my career, fully imbued with the doctrines which I had learned in the schools, I employed venesection, emetic tartar and aloes, setons or vesicatories, and lotions of cold water on the head. From the absolute failure of success in the cases in which I had seen this mode of treatment adopted, I ought to have foreseen that such means could have little good effect; but, seduced by the brilliant illusions of theory, I persisted in the employment of them, and in the space of ten years I thus treated twenty-three horses, twenty of which died, and the three others remained in a comatose, debilitated state, to which farcy or glanders soon succeeded.

It was not until 1833 that I changed my plan of treatment. A mare named La Fortune, belonging to the 11th regiment of artillery, eight years old, and exceedingly fat, was, on the 13th of May, attacked with vertigo. She was continually in motion, knocking and pressing her head forcibly against the wall, and had thus already wounded her head in various places. She was led with difficulty to the infirmary, which was only a little way from the place in which she had been standing. The pulse was full, hard, and slow—the conjunctiva highly injected—the pupils dilated—the dorso-lumbar portion of the spine inflexible, and she was perfectly unconscious of surrounding objects. I was about to bleed her, when, reflecting upon my former experience of the inadequacy of this measure, I determined to adopt other means. A few days before I had been talking of this disease with my intimate and valued friend M. Crepin, and he had informed me of the success which had attended his adoption of the plan first recommended by M. Gilbert—abstaining from bleeding, and giving emetic tartar. Encouraged by his advice, I gave La Fortune an ounce of emetic dissolved in a pound and a half of the infusion of the flowers of the Linden tree. After having cast the animal, and inserted a seton on each side of the chest, an injection of an ounce and a half of aloes was thrown up, and

the animal was restricted to water whitened with oatmeal. After that, an ounce of the sulphate of soda was administered daily, and some injections given, and the animal, to my great surprise, was completely well in the space of fifteen days. She was then sent to grass, and in a little while fully regained her condition. Four days afterwards she was taken up, and put wholly on dry food, and on the 6th day fresh symptoms of vertigo appeared. I employed the same means, with the exception of the setons, and with the same success. She is now at hard work, and in perfect health.

Two other cases of vertigo presented themselves in the months of March and April 1834, and in both of which it would have been thought that bleeding was plainly indicated. Both the horses were very fat—there was great redness of the mucous membranes—fulness, frequency, and hardness of pulse—dilatation of the pupil—all the intellectual functions suspended or confused—the power of motion disordered—it seemed like a state of drunkenness: they pressed their heads against the wall, and, in fact, exhibited all the symptoms of well characterized vertigo.

As soon as I saw them I ordered them to be cast, and inserted setons on each side of the chest. I then administered an ounce of emetic tartar in a pound and a half of hot water. On being liberated and led to their stalls, an injection containing an ounce and a half of aloes was administered to each. The restricted diet of white water was ordered for each, with an ounce of the sulphate of soda daily. Success crowned my efforts, although in July one of them had an appearance of farcy in the course of the seton; and they now are free from every symptom of a disease which I regarded as mortal, and, at least, in which I had previously been unable to render any service.

Journal, Feb. 1835.

ON THE DANGER OF BLEEDING, AND THE ADVANTAGE OF THE ADMINISTRATION OF EMETIC TARTAR IN STAGGERS (VERTIGO) IN THE HORSE.

By M. CREPIN, M.V.

I, LIKE my friend M. Philippe, once thought that copious and repeated bleedings were indicated in this disease. My opinion coincided with that of all my brother practitioners; but experience has now enlightened me, and I am convinced that I was much too long deceived.

The error was, indeed, a very natural one, for it had the merit

of great antiquity ; it was contained in every popular work, whether original or borrowed from the famous medico-physiology of the Greeks ; it was supported by every mode of reasoning and illustration, more or less plausible, which that system could offer to the partizans of the ancient mode of treating vertigo ; and the detractors of the method prescribed by Gilbert, the professor of Alfort, who, in a treatise full of new and profound views, has deprecated not only the abuse but even the most moderate use of bleeding in vertigo. Let it be remembered also, that far from admitting many varieties of this malady, he recognized vertigo as dependent solely on some morbid state of the digestive organs.

The following are cases that have occurred in my practice :—

CASE I.

On the 3d of May 1816, at eight o'clock at night, a horse belonging to the first Grenadier Regiment of the Guards was suddenly attacked with vertigo, with many of the characters belonging to the variety then termed stomach staggers (*indigestion vertigineuse*). He was bled largely at first by amputation of the tail, and afterwards from the jugular. Four setons were inserted in the neck—cold water was thrown on the head—many purgative drinks and injections were administered—but all without avail. The horse died at the expiration of thirty-six hours.

CASE II.

May 27th.—Another horse in the same stable was attacked by vertigo, and died in three days after being bled, and treated in the same way as the other.

CASE III.

From the 1st to the 10th of May 1817, I had a horse under treatment that had been violently attacked with vertigo. I bled him largely, and administered two drachms of emetic tartar and an ounce of aloes. There was a marked remission of all the symptoms, which continued until the 4th, when the disease returned with its former violence. The horse was bled again, and led to the watering-place and bathed, at the somewhat imperative suggestion of an influential amateur. He was scarcely in the water when he was seized with a fit more dreadful than any of the preceding, and he would infallibly have been drowned, had we not dragged him out by force of ropes and arms. The *emeto-cathartic* given at the commencement of the attack was again administered. He was calm for three days, when he again relapsed, and died on the 10th.

CASE IV.

2d April, 1818.—A horse, eight years old, and very fat, belonging to the same troop, was attacked with vertigo. At 4 P.M., having broken his halter, he abandoned himself to the most violent movements, and ran into a court, and hurled himself with frightful force against a wall. His eyes were brilliant, but the buccal, nasal, and conjunctival membranes were of a yellow colour. He was bled four times in the space of four hours—many drinks with emetic tartar were administered, and also some injections. At ten o'clock the horse was calm.

3d.—The horse is now stupid—he pushes against the wall, or supports his head on the manger. He drinks from time to time a few gulps of white water, with emetic tartar, which he sucked for a long time, and he also searched for something to eat.

4th.—He had frequent mucous evacuations. The membranes retained their yellow tint, and during the five or six following days he continued to improve.

10th.—There remained only a kind of drowsiness, which those accustomed to him said he always seemed to have. He was considered as cured, but did not return to the troop until the 1st of May. It was unfortunate for him that he did then return, for about 5 P.M. he began to be stupid and to stagger about. From this he seemed to recover a little, but about nine o'clock he had a decided attack of apoplexy. He fell—for a few minutes respiration seemed to be suspended, and it was afterwards performed in a hurried, laboured manner. A copious bleeding somewhat calmed him, and he was got up; but an hour afterwards he fell again, and at eleven o'clock he died: his limbs had been previously paralyzed and cold.

CASE V.

23d April, 1819.—A horse of the fifth troop was attacked at four o'clock in the morning; at seven o'clock there was a well-marked remission, and he was calm during the remainder of the day. He had been bled twice, and some emeto-cathartic drinks had been administered. During the night he had another attack, which lasted about a quarter of an hour, and was followed by profound sleepiness. On the following day his state varied little: he was again bled, and cold water was dashed on his head. He endeavoured to eat some bran which was at the bottom of his drink: he made several efforts to swallow, but nothing passed, except a few drops of the white water. I have often remarked these ineffectual attempts to swallow in the horse labouring under vertigo.

No great change took place until the evening of the 25th, when a most violent relapse occurred: he pushed with all his might against the wall; he threw himself down, and still continued to force himself against the wall. Getting up again after some hours, he forced his head to the bottom of the manger. A cold sweat covered his shoulders; his respiration was loud; his head was hot, particularly about the forehead, and he continually and forcibly ground his teeth.

26th.—Profound drowsiness. At eleven o'clock a copious discharge of red-coloured and strong smelling urine. The bottom of the eye reflected a bright opaline colour.

27th.—He died at eleven o'clock, after struggling violently. A little while before he had attempted to eat and to drink, but was unable to swallow.

CASE VI.

1st July, 1822.—A mare was attacked. She was immediately bled, and sedative drinks were administered, but without any good effect. On the third day of the disease, at the recommendation of M. Dupuy, who was then professor at Alfort, twenty grains of emetic tartar, dissolved in about a pint of warm water, were injected into the jugular. Almost immediate relief followed. The horse got better and better during the space of a month, and was considered to be out of danger: a sudden relapse then occurred; the animal became immobile, and died of marasmus.

It has hitherto been seen that bleeding is, at least, inefficacious if it is not injurious in vertigo, counterbalancing the good effects of the emetic, and the emetic, perhaps, given in too small a quantity. The following facts will clearly shew that bleeding has an injurious effect.

CASE VII.

10th May, 1825.—A horse, belonging to the Comte de P—, two months before had an attack of staggers that was at that time an epizootic complaint. He now lay on his litter in an apparently desperate state, and the illness of his former attendant had prevented any thing being done. I administered an ounce of emetic tartar in a drink. The horse remained for two days without power to rise; he had extraordinarily loud *borborigmi*, and his head was paralyzed and motionless on the litter. At the end of that time the owner sent for the knacker to destroy and take him away; previously, however, a last attempt was made to get him on his legs, which succeeded. He no sooner got a little firm in his new position than he staled abundantly, drank half a

pailfull of warm white water, and gathered a few fibres of hay that were in the manger ; in short, he lay down no more until he was perfectly convalescent. In fifteen days he was quite well. For the last five years he has been in hard service, and I have not lost sight of him.

CASE VIII.

20th May, 1826.—A horse labouring under staggers was put under my care. I pursued the mode of treatment recommended by Gilbert, and inserted four setons in his neck, and he was perfectly cured.

CASE IX.

In the following month, another horse affected with staggers was placed under my care. Fifteen hours had elapsed since the first attack, and he had been during eight hours stretched on his litter. A farrier had seen him, and would have bled him ; but, after striking him five or six times with the blood-stick, he gave it up, declaring that the blood was too thick, too frozen, to flow ; and that explanation satisfied the proprietor, although he held a high station in the Academy of Medicine. Folly ! where next wilt thou nestle ? This thickness of the blood, however, saved the horse.

CASE X.

7th March, 1827.—I gave an English horse, attacked with staggers, half an ounce of emetic tartar and an ounce of aloes. He was cured without relapse, or any of the ordinary consequences of this disease.

CASE XI.

25th August, 1827.—I was desired to see a horse belonging to M. B—, that was very ill, stretched on his litter, and was said to be overworked, foundered, lost. He had been ill some twelve hours ; and those who attended on him had not been niggardly in their bleeding, which had only made bad, worse. I prescribed an ounce of emetic tartar, not without many remarks on the quantity of the medicine on the part of the farrier who had previously attended on the horse, and who vehemently declared that the case was absolutely incurable. The emetic was administered at eleven o'clock at night : at seven o'clock on the following morning I found him up, and searching for some fibres of hay amidst his litter, and which he ate with a certain degree of appetite. He apparently went on well during some days, and then he relapsed and died, after being for a while paralyzed. It is sufficiently plain that the good effects of the emetic were destroyed by the bleedings made so *mal à propos*.

CASE XII.

25th Feb. 1828.—A horse, twenty years old, that had rendered good service in his time, and that was preserved more from the recollection of what he had done, than what he could now do, was attacked with vertigo. The proprietor, who, in his quality of officer of cavalry, thought that he had some pretensions to veterinary science, having questioned me with regard to the malady, and the treatment which I intended to adopt, deemed it very extraordinary that I did not have immediate recourse to bleeding, which, in his opinion, such a case imperatively demanded, and for which he appealed to the authority of an estimable confrère, M. G.; but, as I was obstinate, although they did not conceal their belief that I was somewhat beside myself, they left me to do as I pleased.

I pursued, with some slight modifications, the plan of Gilbert, and with complete success. On the first day I administered an ounce of emetic tartar, with the same quantity of aloes and some opium. The attack had been exceedingly violent: the medicine produced loud rumbling of the bowels, which continued during the 25th, 26th, and 27th, and, although somewhat weaker, several days afterwards. I also applied four setons to the neck, and enormous sinapisms on the thighs and chest. On the second day he had roused himself a little; and this increased on the following day. On the fifth day the animal exhibited more drowsiness, and bore upon the reins by which he was secured in his stall. He pawed frequently, and agitated his tail as if he was teased by flies. By the advice of M. Dupuy I gave him a half-pound of bark, mixed with six or seven pounds of honey, in the space of three days. I intended by this to avoid the stimulating drinks recommended by M. Gilbert. Good panado was afterwards given, to the amount of three pounds every day, with a pound of honey.

March 10th.—He was led for the first time into the yard, and staggered like a drunken man. Fifteen days after that he returned to his former food and work.

Twenty months afterwards he was found one morning dead in his stall, without any appearance of illness on the previous evening.

CASE XIII.

The case which I am now about to relate occurred during the convalescence of the last mentioned horse. About the middle of March, 1828, I was desired to see a horse, belonging to the gendarmerie of Paris, that was very ill. I immediately recog-

nized the symptoms of staggers. Another veterinary surgeon attended with me, who requesting me to act as I thought best in such a case, I administered an ounce of emetic tartar about eleven o'clock in the morning. The horse beat himself about very much during the day, and, at seven o'clock in the evening, he fell, and was not able to rise again until the following day, when he appeared to be considerably better. The other veterinary surgeon, however, thought it his duty to bleed him, and he begged me to repeat the bleeding some time afterwards. I did so reluctantly, but honestly; and, at eleven o'clock on the succeeding day, the knacker carried the animal away. I am far from imputing any blame to that surgeon, with whom I live in habits of friendship, and whom I sincerely respect; but I confess that I regard the death of this horse as attributable, in great part, to the copious bleedings that were practised at the moment that he was beginning to get better.

CASE XIV.

At the beginning of August, 1829, I attended a horse, the precise nature of whose disease was not evident for some days. I could only affirm that there was some internal inflammation; and yielding to the necessity which the veterinarian often feels to appear to be doing something, in order that he may not be considered as quite useless, I practised a bleeding, to which both the owner and the coachman much urged me. The animal was put on restricted diet and white water; at the end of three days, his loss of appetite and his dulness had increased, and I began to recognize the symptoms of stomach staggers (*vertige abdominal*). After many a violent struggle the horse fell. I then administered the emetic; it was about midnight. On the following morning he had got up of his own accord, and without assistance; in the course of the day he appeared to improve, and he drank a little; but during the following night he relapsed, and died.

Journal, Fev. 1835.

[We are merely chroniclers here—and leave, for the present, this novel and singular mode of treating vertigo to the consideration and experience of our readers.—EDIT.]

ON CRAMP, DISLOCATION OF THE PATELLA, AND HOCK LAMENESS.

By Mr. W. C. SPOONER, V.S., Winchester.

IN the last December Number, there appears a paper, by a foreign veterinarian, entitled, "Cramp in Horses," which, I think, deserves a few remarks, both from the novelty of the subject, and as it is calculated to mislead a novice; though a scientific practitioner will at once perceive the errors it contains. It appears that the writer, having met with many cases of lameness with the cause and seat of which he was unacquainted, resolves to get out of the difficulty by classing them all under the denomination of cramp; alike regardless of the true meaning of the term and the great discrepancy that occurs in the symptoms of his cases. It is enough for him to know that no exterior lesion is discoverable, in order to persuade himself that the case is one of cramp.

He divides cramp into *three* sorts; but this division is only an attempt to support false premises by ideal distinctions, and is of no utility whatever. The first case he details presents the exact symptoms of dislocation of the patella; and if we could conceive it possible that the bone could have slipped into its place from the effects of the friction, unknown to M. Prevost, it would readily explain the mystery.

I remember about two years since being sent for to attend a colt that had suddenly lost the use of one of his legs the previous day. He had been put into a stable, perfectly well, with the intention of being sold by auction, at a sale; but on moving him out for that purpose, a few hours afterwards, he went entirely on three legs: the off hind leg was dragged after the others, the animal not possessing the slightest capability of flexing it. I was assured by several respectable farmers that it was, that it *must* be the cramp, and nothing else; however, on minute examination, I discovered that the patella was dislocated outwards. I therefore desired an assistant to pull the foot forwards, and, getting behind the colt, I dovetailed my hands in front of the patella, and forced the bone into its place. The cramp advocates stared with surprise on finding the colt could use his limb with freedom; but, to satisfy themselves further, they made him trot and turn suddenly, and in a minute or two the bone was again dislocated; it was, however, reduced with much less difficulty and force than before: he was again trotted and frightened, and the immobility of the limb once more returned, but the bone regained its situation without assistance

by moving the colt a few steps. A pitch charge was applied to the part, the animal was turned out, and did well. The facility with which the bone was dislocated and replaced the second and third times, deserves note; and it was this circumstance that induced me to think that it was possible M. Prevost's case might have been of this nature.

The second case detailed is decidedly one of *hock* lameness, and, in my opinion, the lesion existed between the tibia and astragalus.

The third is a case no doubt similar in its situation; M. Prevost himself considered it was in the hock. Why in the world, then, should he have called it cramp?

The fourth is a case likewise of hock disease, and terminating in spavin. M. Prevost says, it would be interesting to know whether the osseous tumour was caused by cramp. It would, I think, have been much more sagacious, if he had considered that deep-seated injury had taken place; that the ligaments were involved in the mischief; and that nature, in order to relieve the inflammation, threw out an ossific deposit, after which, as is generally the case, the lameness was diminished.

Case the fifth is a lameness of the fore extremity, and, as it occurred after exposure to cold, was probably cramp or rheumatism.

The sixth and seventh cases were possibly cramp; but the two others which M. Prevost alludes to, presented the symptoms of hock disease, viz. lameness after rest, and diminution or cessation from exercise.

I cannot better conclude these observations than by mentioning a case that has recently come under my notice, which still further illustrates the seat of obscure hock lameness. A chesnut mare, five years old, appeared slightly lame in November last, in the off hind leg; it diminished and nearly disappeared from exercise, and was much worse sometimes than at others. Not the slightest enlargement or heat could be discovered at the hock or elsewhere; but notwithstanding this, I at once pronounced her lame in the hock. She was rested a short time, and a vesicating liniment was rubbed on the hock; this, or more probably the rest, relieved her: she became nearly sound in her action, and was worked moderately through the winter, though hunted now and then. She soon became, however, as lame as before, but the lameness did not much increase. She died of inflammation of the bladder and bowels, last month, and afforded me an opportunity of examining the hock, which, as I expected, discovered an abrasion of surface and ulceration on the ridge of the tibia, and in the concavity of the astragalus.

DEEP FIRING FOR CHRONIC LAMENESSES OF THE HOCK AND LEGS.

*By Mr. J. TOOMBS, V.S., Bengal Horse Artillery,
now at Pershore.*

THE following case is extracted from my registry of sick and lame horses. If approved of, it shall, at no great distance of time, be followed by others.

Dec. 10th, 1832.—An aged troop horse was admitted into the hospital stable this morning in consequence of severely injuring both hind legs by entangling them in the wheel of a gun carriage while at practice. There were slight contusions on the near leg: the off one was dreadfully bruised, and the horse could not rest the least portion of his weight on it. When held up, it appeared as though the tibia was fractured, the hock and leg having an exceedingly rotatory motion. On minute examination I ascertained that the gastrocnemic muscles were ruptured where they become tendinous. Six quarts of blood were taken from the femoral vein, and a patten shoe applied. Repelling lotions and fomentations were ordered, and a purgative administered.

11th.—Patient in *statu quo*. Fomentations continued.

18th.—No perceptible amendment. It is very strange that no swelling has taken place. The parts must be roused into action; therefore let a blister be applied.

20th.—The blister has produced a violent inflammation, and an enormous swelling. Treatment, fomentations and physic.

27th.—Inflammation abated; swelling less. He can now bear a little weight on the feet. Apply a charge to brace up the injured parts.

Jan. 6th, 1833.—The patient improving slowly; but when the foot is elevated from the ground, the leg has still a sort of rotatory motion. Continue the charge.

20th.—The injured muscles are extremely weak and relaxed. Patient very lame. This morning I adopted my favourite remedy for all long existing cases of lameness in the hock and legs, viz., the actual cautery, deeply and extensively.

30th.—Inflammation diminishing from the effects of the cautery.

Feb. 10th.—I had him led out; he walks much better. The patten shoe was removed, and a thick heel then applied.

15th.—Lameness going off rapidly.

20th.—The firing has had a very excellent effect: he can now trot tolerably well. The firing produced a deep-seated inflammation and effusion, which united the ruptured parts together.

March 7th.—Discharged fit for duty. I attribute the cure to the effects of the cautery, as it very soon made the horse a fit and proper subject for a species of military duty which is sometimes particularly laborious.

ON INSANITY IN THE DOMESTICATED QUADRUPED.

By PROFESSOR RODET, *of Toulouse.*

IN the “Dictionary of Medical Science,” in which there is much that is interesting to the veterinarian, the editor, under the title “insanity” (*folie*), has neglected to call the attention of naturalists to the derangements which seem to take place in the faculties, truly intellectual, which domesticated quadrupeds evidently possess. In truth, however, the veterinary surgeon has not collected a sufficient number of well-authenticated facts absolutely to prove that insanity does exist in the animals which we have subjected to our sway; but, since these animals are endowed with certain faculties or inclinations superior to instinct, such as volition, memory, attachment, hate, resentment, fear, &c., which indubitably prove that they possess the power of comparing their ideas, and, consequently, a certain degree of intelligence, it will necessarily follow, from the very possession of these faculties, that they may be deranged or destroyed by a multitude of causes which it is unnecessary to state here; in fact, that insanity in some of its varieties may and must exist as a consequence of their complicated organization, and the circumstances in which they are placed.

The brain, the organ essential to the intellectual faculties, is, with few differences, the same in the domestic animal as in man. In him the lesion of a certain part of the brain often draws after it the derangement, or disturbance, or perversion of a certain faculty; and it is well known that the same lesions, whether mechanical or organic, are to be met with in the inferior animals. These identical lesions—ought they not, in an analogous organization, to produce nearly similar results? especially since comparative anatomy proves to us that, among all the beings endowed with life, wherever we find an organ well developed, we find also the faculty of which it is the base and instrument; and we find the particular disease of which it alone can be the seat, and of which the lesion of this organ can become the special, and, more or less, inevitable cause. May it not hence be concluded, that in animals, in which essential lesions of the brain are observed,

certain derangements of the cerebral functions will also be found, if we will take the trouble to look for them?

Besides, the disordered motions—the unaccustomed, and, as it were, involuntary actions—the fury—the caprices more or less singular—the unusual vices—the unaccustomed exertion of muscular strength, &c., which are seen in horses in certain violent inflammatory diatheses—in frenzy, vertigo, and some varieties of apoplexy, &c., are they not in the highest degree analogous to certain acts of insanity in man, and especially to that furious delirium which constitutes some maniacal affections, and accompanies others? Finally, the acute delirium, characterized in the horse by certain errors of the will and the natural propensities and desires, may it not sometimes be seen in other graver affections, and degenerate into a continued chronic delirium, which is, in truth, actual insanity, and not incompatible with the free exercise of the vital functions, and with the continuance of health?

M. Lessona has remarked*, that morbid irritation of the brain and its meninges, becoming of a chronic nature, may be the frequent cause of the vices which many horses display, whether under the form of starting, restiveness, impatience, biting, kicking, and rushing on persons without provocation.

The remarkable fury which some animals, gentle in every other respect, shew at the sight of one object, and one alone, and which makes them quite beside themselves whenever they see that object, is it not in some cases true monomania? The peculiar eagerness with which certain females, that before had been good mothers, search out and pursue their own offspring in order to destroy them, and the evident delight (which we cannot behold without horror) with which they devour them, is not this insanity; and so much the more distinctly characterized when we compare it with that natural instinct for the preservation of their young ones, and their attachment to them, and the unwearied care with which they nurse them, the observation of which so much delights us?

Fear! are there not many examples of its having produced the most remarkable effects upon animals which, from their cause, their character, and their duration—even as long as the life of the animal—bear much resemblance to insanity in the human being? It is not because the derangements in the cerebral structure and function which take place in the human being cannot happen in the quadruped that the history of veterinary medicine does not afford cases of insanity so marked and perfect as those that are observed in man; but because, our domesticated quadrupeds not having the gift of speech, we are deprived of one of the surest

* *Propagatore fascicolo di maggio, 1827.*

and easiest means of detecting insanity, namely, by the incoherence and singularity of conversation ; and also because, while all the cerebral functions connected with thought, like all the intellectual faculties, are less developed than in man, their derangements will be more likely to escape observation ; and, chiefly, because from the absence of speech they are less easily recognized, studied, or described. If, however, insanity may exist in animals, it is much more rare than in the human being ; and which is doubtless owing to the imagination, that has so great a share in the development of the intellectual aberrations of men, being less active, and less capable of excitation in the inferior portions of the creation, than in him.

Let this, however, be as it will, the following facts, although too isolated for any medical conclusions to be drawn from them, may prove that affections analogous to insanity may really exist in the domestic animals ; and, even although they may not be admitted to be veritable maladies of this kind, yet they will, perhaps, attract the attention of observers to derangements of the intellectual faculties of animals more numerous and more frequent than is generally supposed.

CASE I.

I saw, at the commencement of 1824, a horse, seven years old, belonging to the first regiment of Chasseurs, then in garrison at Rouen. He was remarkable for an habitual air of stupidity, and a peculiar wandering expression of countenance : his head was usually carried very high, and his neck was stretched out ; but there was nothing else that could lead to the suspicion of any particular nervous affection. Whenever he saw any thing that he had been unaccustomed to, or heard any sudden and unusual noise, or heard a horse struck, whether it was near to or at a distance from him, or even, sometimes, when his corn was thrown into the manger without the precaution of speaking to him, or caressing him, he was frightened to an almost incredible degree ; he recoiled precipitately, every limb trembled, and he struggled violently to escape. After several useless efforts to get away, he would work himself into the highest degree of rage, so that it was dangerous to approach him. This state of excitement was followed by dreadful convulsions, and which did not cease until he had broken his halter, or, at least, detached himself from his trammels ; and then, as soon as he felt himself free, when there was nothing to constrain his convulsive movements, he became calm, dismissed all his apprehensions, and suffered himself to be caressed and led back to his stall, where he immediately began to eat, and there was not a trace of agitation remaining. During

the intermission between these fits there was nothing extraordinary to be perceived about him, save an almost continual inquietude, and a wandering and stupid expression of countenance.

We knew that this horse had previously belonged to a brutal soldier, who frequently beat him about the head ; and it was said that the horse had been quiet and tractable, and had never fallen into this state of seeming insanity until he had been thus ill-used.

Having now become not only dangerous but absolutely unfit for service, he was cast. Before that I had the opportunity of observing him during several months in my infirmary ; and neither the kindest treatment, nor the utmost care to inspire him with confidence, could preserve from these occasional fits of terror, nor in the least diminish their violence.

CASE II.

About the same time there was in the regiment a mare, six years old, who was in the same state, and from the same cause, but with this difference, that the fits did not continue so long, and that they ceased when she was able to detach herself from her halter ; for, this being effected, she would throw herself backward on her haunches and be quiet. This she was the more easily enabled to accomplish, when, on account of a more than usually nervous and irritable state, she was loose in her box. At other times it would have been dangerous to have tied her with a strong halter, because she would have destroyed herself in her attempts to throw herself backwards, she was therefore very slightly fastened to the manger.

A subaltern officer afterwards took her, and endeavoured to cure her ; and, after a long course of patient attention, caresses, and gentle treatment, and the careful avoidance of those things which used to annoy her, he had the satisfaction of seeing the complaint gradually disappear. She was killed in the campaign of 1815.

I have selected these facts from many others, because they appear to me very nearly to approach to some of the affections that would rank under the term insanity in the human subject.

Finally, if it should hereafter be proved that insanity may exist in animals approaching in a greater or less degree to the perfect organization of man, may we not, perhaps, when their causes and actual character are better known than they hitherto have been, class under this affection some obstinate caprices and whimsical habits which we can neither conquer nor change, and also some inexplicable aversions and instances of depraved appetite ? Are we not often struck with the remarkable analogy

which seems to exist between the insanity of man and all those fancies so singularly capricious in animals ; the return of which is more or less frequent, and often by no means to be prevented ; and which, besides, are only seen when connected with one special circumstance or train of circumstances, the common appearance and behaviour of the animal presenting nothing extraordinary, or even particular ? Does it not also seem impossible to avoid referring to any other derangement than insanity those sudden dispositions to restiveness, stubbornness, fantastical conduct, fury, which suddenly appear without any apparent diseased state, either habitual or periodical ; and in horses that at other times, and in every other situation, the object of their aversion, their terror being put out of the question, are as obedient and tractable and free, and as exempt from dangerous caprices, as they are now frightened, difficult to manage, or timid ?

Doctrine Physiologique appliquée a la Médecine Vétérinaire.

THE VETERINARIAN, MAY 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE EARLY HISTORY OF VETERINARY MEDICINE.

Extraeted from " The History of Medicine," by M. J. F. C.

HECKER, *Professor at the University of Berlin.*

IT would be exceedingly useful to unite the maladies of all living beings in one course of instruction, in order to arrive at a profound knowledge of the laws of nature ; but this is a problem, to the solution of which many obstacles have hitherto opposed themselves. Before this union, both human and veterinary medicine ought to have attained the highest state of perfection. They both owe their origin to the necessity which bounds the latter to the maladies of a few animals only. Both being now recognized among the most useful sciences, they may, as each makes new progress, be compared together, but they cannot be mingled in the same system of tuition ; for the age has not yet sufficiently advanced to enable any one to treat of the diseases

of every being endowed with life, with that true and enlarged spirit of philosophy which such a subject requires. Even in modern times, after so many volumes, and with so much ability, have been written on one or the other of these divisions of medical research, who is there who has dared to attempt a work of this kind? It would, therefore, be unjust to expect to meet with such an union in the productions of the writers of antiquity. Physiology, indeed, presents us with the noble works of Aristotle and Galen, in which man and the inferior animals are so advantageously and so accurately compared together; but Pathology, limited to the human being, has scorned to avail herself of the important aid she might have derived from veterinary medicine. At the period in which these great men lived, science was in a flourishing state; later, when it fell into decay, the union of which we have been speaking would have been less practicable.

Veterinary medicine, however, so necessary in civilized society, and which follows so closely the track of human medicine, has long existed as a separate branch of science. It was not forgotten by the Emperor Constantine Porphyrogenitus, who, animated by an ardent zeal for the progress of science, caused the most careful research to be made in every branch of knowledge of which antiquity could boast. A collection of fragments from the most valuable of the older veterinarians was made, in which are found the rudiments, at least, of much of the knowledge of modern times.

In ages of the remotest antiquity, little notice was taken of the diseases of most domestic animals. The Greeks were the first who shewed a laudable disposition to elevate those servants of man from the state of neglect in which they lay, and to render them more useful. The work of Xenophon on equestrian matters shews how diligently the Greeks had studied the various qualities of the horse; but it is to be regretted that we have no record of the treatment of the diseases of the horse at that period when Greece flourished most. Xenophon mentions only one disease to which the horse is subject—acute rheumatism, *ῥιθιασις*.

Simon, whose writings on this subject were antecedent to those

of Xenophon, acquired great celebrity, and a statue of bronze was erected in honour of him at Eleusis.

Veterinary medicine was not, to any considerable degree, elevated to the rank of a science until much later, and when letters and the arts had begun to decay; but many veterinary surgeons had before that exercised their profession, and accompanied the troops in their expeditions. It is difficult to account for the appearance of skilful, scientific, and experimental veterinary surgeons in the middle of the fourth century, a time when all other sciences were obscured; and when medicine itself, although it yet ranked an Oribasus amidst its votaries, was beginning to suffer from the spirit of compilation which then reigned.

Towards the commencement of the second century, and, perhaps, a little before, there were in the Roman camp two spaces, called the *valetudinarium* and the *veterinarum*. The first was destined for the sick and wounded men; the other for horses that were diseased or lame. The latter was placed near the forge and the other buildings appropriated for the horses*. After that there is no doubt that, among the Romans, and, still later, in the Greek empire, veterinary surgeons regularly accompanied the armies. Besides other testimonies to this effect, we have that of Apsyrtus, who says that he followed Constantine in his expeditions.

The oldest veterinary writer of whom mention occurs is Eumelus of Thebes, who flourished about the end of the third century. Some fragments of a great work of this author are preserved, which prove that he had had great experience, and justify, to a considerable extent, the reputation he enjoyed, but which certainly fail in proving him to be a scientific man. He has described fever in the horse, cough, inflammation of the lungs, and their termination in phthisis; inflammation of the glands of the ear (the parotids), and other glandular tumours of the neck, connected with suppuration and discharge. His enumeration of symptoms, however, is often given in a superficial and obscure manner, and betrays a want of solid knowledge, and also a certain tendency to empiricism.

* Hyginus de Castramentatione.

We are acquainted merely with the names of two other veterinary writers, who probably lived about the same time, namely, Stratonicus, and Hyeronimus of Lybia.

The most valuable of these early writers is Apsyrtus, who lived a little before the time of Oribasus. He accompanied the expedition of Constantine the Great against the Sarmatians, between the years 319 and 321, as veterinary surgeon to the cavalry. He acquired great celebrity, as is proved by numerous letters written by persons of different ranks in society, and particularly by veterinarians. These letters were collected by Apsyrtus himself, and dedicated to a physician named Asclepiades; and it appears that, at that time, several veterinary surgeons exercised their art in Alexandria and Laodicea. It is also proved that this profession was hereditary in the family of Apsyrtus, for he tells us that his grandfather Demetrius was a veterinarian. When scientific establishments were wanting, instruction was sedulously transmitted from father to son. We possess, in the writings of this author, many natural and valuable observations, but none very profound. He had little connexion with the medical men of his time, which is easily accounted for by his want of education; and farriery, separated from medicine, obtained an independent situation, which enabled it to distinguish itself more advantageously.

Apsyrtus says expressly that the horse has no gall-bladder, but this he might have easily learned from the writings of Aristotle; and we have no right to expect from these early veterinarians anatomical knowledge beyond that which was common to their age. In physiology they contented themselves with the popular opinion, and with the light which they could obtain from medicine. Apsyrtus recognized the hereditary nature of ophthalmia in the horse.

We might easily cite other diseases, with regard to which his opinions were singularly exact. He very accurately describes the nature of fever in the horse, its symptoms and its causes; and he combats it by a simple mode of treatment, and without medicine. He prescribes, at the commencement of the disease, a restricted diet and bleeding from the head; and, after the first day, gentle

exercise and moderate regimen. When the disease evidently proceeds from fatigue, and is accompanied by loss of flesh, he recommends a tonic and nutritive diet. The mode of treatment advised by him in other affections is equally worthy of praise, on account of its simplicity. The only thing for which he can be reproached is his having recourse to amulets and superstitious practices, as preservatives from disease; that which did so much injury to veterinary medicine in the latter period of the Roman empire, and to so great a degree arrested its progress.

The nervous or contagious putrid fever of horses was then generally dreaded. We have no fragment of Apsyrtus on this subject; but passages from Pisterius of Sicily, Leontius, Æmilius of Spain, and Litorius of Benevento, lead us to suppose that they had already witnessed some appearances of this dreadful malady under an epizootic form. The ancient veterinarians endeavoured to prevent the progress of the malady by separating the sound horses from the diseased, and which they could only accomplish by means of convenient stabling and pasturage*. We do not find, in ancient authors, whether before or after the establishment of Christianity, any plan for measures of this kind in contagious diseases of the human being; unless, indeed, we reckon the various regulations of the police for the purification of the air, established both among the Greeks and the Romans. Coelius Aurelianus even blames the salutary counsel given by some physicians of his time to prevent the contagion of leprosy, by cutting off all connexion with those that are infected, and says that medicine is incapable of such an act of inhumanity. They knew, even then, the manner in which contagious diseases are propagated†; but the prejudice, the barbarism, the superstition,

* In the "Geoponicorum, sive de re rusticâ," drawn up by order of Constantine Porphyrogenitus, there are many important fragments on veterinary medicine, which are not found in the collection entitled *Hippiatrica*, and which may serve to render this last work more complete. The passage where the isolation of horses labouring under certain complaints is mentioned, is not found in the Greek edition of the *Hippiatrica*, but is contained in the Latin translation of Ruellius (*Veterinariæ Medicinæ*), which is in many respects more complete.

† See MARX, *Origines contagii*.

and, above all, the negligence of the different governments, prevented the enacting of salutary ordinances on a matter of so great importance ; and hence it happened, that while there were regulations to prevent the spread of contagion among cattle, no one had dreamed of endeavouring to preserve the biped from the danger to which he was exposed.

The contagious nature of strangles was then known, and the same measures of isolation were resorted to, in order to prevent other horses from being attacked. Apsyrtus says, expressly, that this malady is very dangerous among colts, as we find at the present day ; and he carefully distinguishes other diseases of horses accompanied by discharge from the nostrils, among which are glanders and nasal gleet. The last he clearly describes under the name of “ the humid disease ;” and he considers it as easy to cure when the mucous discharge has no fetid smell ; but, otherwise, very difficult to get rid of. One would think that he was here speaking of glanders. In the malady termed the dry disease, and which Eumelius regards as incurable, no discharge from the nostrils is observed ; but the principal symptom is malignant inflammation of the lungs and diaphragm. Under the name of gouty disease he seems to understand glanders, or ozena, with rheumatic affection of the loins or thighs. Theoinnestus speaks of glanders more clearly under the title of foetid disease, to distinguish it from that which is unaccompanied by peculiar smell, and which answers to our mild coryza. We must not expect from these authors an exact distinction between these different species of nasal disease. They make use of no technical terms, but describe what they have seen in common language ; and they know not how to reduce a complicated malady to the various simple affections of which it is made up, as is sufficiently evident in the account which Apsyrtus gives of broken wind, and which has more resemblance to inflammation of the diaphragm terminating in a collection of purulent matter, than to asthma properly so called.

The etiology of glanders, and the diseases analogous to it, which we find in the fragments of Apsyrtus, may give us some idea of the physiology of veterinarians at that time. “The want of a gall-bladder in the horse easily causes a too abundant flow

of bile in the arteries on the side of the dorsal portion of the spine;—an injurious humidity is propagated hence to the spinal marrow, and from the spinal marrow to the brain, which derives its nourishment from the spinal cord. The old theory, which recognized every catarrhal affection as coming from the brain, had great influence in producing this opinion.

Apsyrtus describes acute founder in the horse in terms that can scarcely be misunderstood, and gives it the old name of *hordeatio*—the barley disease. He orders bleeding, and a change of food. It is evident from this that he subscribed to the common belief that founder was produced by the horse eating greedily of barley, after unusual fatigue. Hiérocles supposed it to be caused by the horse drinking a considerable quantity of cold water when he was hot, and we yet see many cases in which it is thus produced.

Apsyrtus, and other veterinary writers, describe farcy under the name of *elephantiasis*. They regard it as contagious, and, as in strangles and putrid fever, they recommend that the horse should be separated from his companions, in order to prevent the propagation of the disease. The description which the same author gives of tetanus is excellent. Some veterinarians of that day attempted to cure the horse by a bath of hot sand—others plunged the animal into a dunghill.

We might cite some very exact and very instructive descriptions of other diseases, as dysentery, dropsy, inflammation of the kidneys; many inflammatory complaints, and insanity in the horse, for the cure of which castration is recommended. Apsyrtus prescribes a very insufficient measure for the bite of a rabid dog, in fact, nothing more than simple irritation of the wound, as soon as that can be employed: this, however, proves that the Greek veterinarians had observed rabies in the horse.

The precepts which Apsyrtus gives as to bleeding, extend to a great length. He mentions the different places at which it should be effected for various diseases: he inveighs against the abuse of it as practised on sound horses, or those that have been simply overworked; and he says that bleeding from the thigh will sometimes be followed by inflammation, which will terminate in permanent lameness. His directions as to castration

and other surgical operations are valuable. He treats fractures below the knee with splints and bandages, and he says that he usually cures them in forty days. Fractures above the knee he considers to be generally incurable. In prolapsus of the uterus he usually employs cold water, and repeated punctures with a fine needle—a kind of acupuncture which bears some resemblance to the operation performed in the east from the oldest time.

[To be continued.]

EXAMINATION OF THE EDINBURGH VETERINARY SCHOOL.

THE Annual Examination of the Veterinary School, conducted by Mr. Dick, under the patronage of the Highland and Agricultural Society of Scotland, took place in the Lecture Rooms, Clyde Street, on Thursday and Friday, April the 16th and 17th, when the following students, who had completed the prescribed course of study, were, after examination, found qualified, and obtained diplomas:—James White, Paxton, Berwickshire; Robert Mason, North Berwick, Haddington; John Tait, Tweedmouth, Northumberland; Henry Seaton, Edinburgh; James Horsburgh, Castletown, Mid Lothian; John Anderson, Libberton, Mid Lothian; William Anderson, Lanark; Peter Strut, Coldstream, Berwickshire; John Pattison St. Clair, Morpeth; John Donaldson, Paisley; Andrew Edmonstone, Aberargie, Perthshire; Alexander Waddell, Guildtown, Perthshire; James Maxwell, Dalswinton, Dumfries; John Falconer, Loanhead, Mid Lothian; and John Aldington Ainslie, London.

The proficiency shewn by the students in the several branches of medical science, and especially in that department more immediately the object of their pursuit, afforded much satisfaction to all who witnessed the examination. Each student, before being admitted on trial, is required to attend a course of two years' study under Mr. Dick, and during which period, by the very liberal conduct of several of the most distinguished medical professors and lecturers in the city, he has the benefit of free admission to their respective classes. As upon former occasions, the convener and committee appointed by the Society superintended the examinations, which were conducted by Pro-

fessors Sir George Ballingall, Graham, and Lizars; Drs. Gillespie, Wm. Wood, Mackintosh, Robertson, and Aikin; Mr. J. G. M. Burt, surgeon, and by Messrs. Gray and Henderson, veterinary surgeons at Edinburgh.

At the close of the business, the convener shortly addressed the students, and congratulated them on the favourable termination of their studies. They had all acquitted themselves well, and to four, who had more particularly distinguished themselves, premiums had been awarded. The convener, in conclusion, earnestly entreated the students to endeavour, under an humble trust in Divine assistance, by a correct deportment in their future lives and conduct, to prove themselves worthy of the advantages of the liberal education which they had enjoyed. He assured them, that as it was the only return which they had it in their power to make to those generous medical friends to whose liberality they were so much indebted, and he was satisfied their future good conduct and success in life would be the most gratifying remuneration which these gentlemen could receive.

To the medical gentlemen, to whose kind assistance the School was so much indebted for its success, he begged, in the name of the committee, and of the Highland and Agricultural Society of Scotland, to return his best thanks; and he was certain that all who felt interested in the Institution would agree with him in expressing their satisfaction of the manner in which Mr. Dick continued to discharge the duties of his situation.

Sir George Ballingall then expressed to the students the high satisfaction which he and the other medical gentlemen present had witnessed the appearance made by them on their examination; and enforced the advice given them by the convener, as to the care they ought to take to exhibit propriety of conduct in their future lives.

Mr. Dick then returned his thanks to the medical gentlemen who had attended the examinations, and in a particular manner to those who furnished his pupils with free admission to their lectures. Without this great advantage, he found he could not, by any exertions of his own, have produced pupils who did so much credit to the School as those now examined.

WE acknowledge the receipt of a letter from the gentleman who once sent us a packet of a medicine in which he put great faith as a remedy for glanders. He tells us that it has perfectly succeeded in another case, in which glanders was combined with farcy, and the glanders communicated from another horse. He adds, that he is anxious to have it tried, and as extensively as may be, in the practice of others.

We have already stated, that it perfectly succeeded in a case under our own inspection ; and if he will send us another package of it, we shall be ready to forward his wishes, by transmitting portions of it to those who will put it to the test: but this on the plain understanding, that if the medicine should be proved to be as valuable as he thinks it to be, the whole history of its composition and mode of application shall be given to the public. “ I believe,” says he, in his last communication, “ that the time will come when I shall be enabled to publish such facts as may “ stagger some in authority ;” but the only reason I have for concealment now, is, that I do not like to be laughed at ; but I will acknowledge myself when I can bring forward a sufficient number of “ proofs positive.”

We do not see the danger of his “ being laughed at” *now* ; but, however, he shall have his own way, and we will hold him to his pledge.

We thank our *Somersetshire* friend, “ A veterinary Surgeon” (we assign his locality to shew him that we *do* know him, and have heard from him before), for the compliment which he pays our Journal ; but he must really permit us to use our own judgment in the selection of our papers. We have many masters to please ; and the only way to give satisfaction to the best of them, is to act impartially, and to fear nobody.

He charges us with inserting “ some very common-place cases of horses that die at last, and such cases as every one who has been in country practice six months has met with often.”

We demur to the truth of the accusation. We regard the records of fatal cases as some of the most valuable that a medical Journal can contain. They are convincing proofs of the honesty of the writer—they rank among those few, and too few they are,

on which we can place implicit reliance ; and among those which THE VETERINARIAN contains, there is scarcely one from which can be fairly drawn, or from which can be forced by a far more malignant critic than our Somersetshire friend, the slightest impeachment of the skill of the practitioner. The warning against a dangerous and fatal path is but little less important than the unfolding of another that promises to lead to success.

But these “every day cases,” as he calls them in another part of his letter, they are those of which our practice is made up,—they are those about which we are too apt to be careless ; and in which we oftener err, and compromise our own reputation and the interest of our employers than in more complicated and difficult ones. We have again looked over some of these cases to which we imagine our correspondent refers, and they certainly are very similar to many which almost daily occupy us ; yet there is a peculiarity in the development, progress, connexion, and termination of the disease, which afford matter for useful reflection.

The object of THE VETERINARIAN is the improvement of our profession. We are evidently accomplishing this by the insertion of papers—and we can boast of no small a number of them—which well and scientifically treat of new and important points ; but we are effecting the same purpose, and as surely and rapidly too, by encouraging in our junior brethren a habit of observation—the practice of recording their cases, and the ambition of contributing their share, be it greater or smaller, to the common accumulating stock of science. There are those, and we would proudly point them out if we could consistently do so, who are becoming, or who have already become, sterling ornaments of our profession, whose first attempt at authorship, and that not critically correct, the pages of our Journal contain. There are those whose maiden essays were condemned by persons as fastidious and hypercritical as our friend, who now, we will answer for it, search for their names in the table of contents, as affording assurance of pleasure and improvement in the perusal of their communications.

But, after all, this accusation comes with an ill grace from him who has contributed nothing at all to the value of our work. If we occasionally insert “very common-place” cases, let him,

and those whom he says join with him in the complaint, keep us well supplied with better ones. He who assists not in the labour has no right to find fault with the execution of the work. All this, however, in perfect good-humour; for we know that *this* “veterinary surgeon” is our friend, and we regard him with feelings as friendly as he bears towards us.

Our intellect is too obtuse to understand the point or wit of J. P.’s communication; and, perhaps, we have given ourselves no great deal of trouble to discover them, because every combatant in our tournament shall wield none but lawful weapons, and shall enter the lists with his visor up.

Y.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Bridgewater Treatises, No. 9. Animal and Vegetable Physiology.
By PETER MARK ROGET, M.D.

WE have already noticed this Treatise of Dr. Roget’s in *THE VETERINARIAN*; but as we concluded our short review with a promise to revert again to his highly interesting and useful work, we now, with pleasure, fulfil our pledge.

There needs no apology for introducing this subject a second time to the readers of *THE VETERINARIAN*, inasmuch as our publication is open to every thing that is connected with, and that will tend to the advancement of, veterinary science.

In the present day, a period distinguished by cultivation of intellect, and the progress of enterprise, the attention of all classes of men is directed to the best means of furnishing to every description of persons the information necessary to the course of life which they follow. The mechanic and artizan will soon cease to be mere automatons in their respective employments, as they are now becoming sufficiently acquainted with the sciences connected with their trade, to enable them to apply their knowledge in the exercise of it. For the due qualification of gentlemen to become members of the three learned professions, theology, law, and physic, certain adequate means have been provided; but when we revert to our own profession, can we honestly say, that the means are adequate to the ends

to which they are directed? It is an evil replete with mischievous consequences, that while the extension of general knowledge should be so much the aim of public exertion, the veterinary student is limited in his resources; for the system of instruction pursued at the Veterinary College, even if it embraced all the objects which it was originally designed to embrace, viz. *a competent knowledge of the structure and diseases of all our domesticated animals*, would suit only the infant state of the art; for at the present time, a more extensive grasp of knowledge is necessary for its safe and successful practice.

Every kind of information in literature, science, and the arts, may be turned to advantage in studying our profession. Without the assistance of mechanics, we are unable to determine the principle of muscular motion—without pneumatics, we cannot explain the beautiful process of respiration, and the physiological results of this function. Without optics, we cannot explain the operation of the humours of the eye on the rays of light in their transmission through them—and without acoustics, we should be ignorant of the manner in which sound is conveyed to the sensible expansion of the auditory nerve. To those students, then, who wish to acquire a competent knowledge of mechanics, pneumatics, optics, acoustics, and other branches of natural philosophy that are justly considered as the auxiliary sciences to the study of medicine, inasmuch as they elucidate certain phenomena in the animal economy, we recommend Dr. Roget's Treatise.

The limits of our Review will be necessarily confined, as on a former occasion, to a single part of this interesting work; and we have therefore selected the "*sensorial functions*." The author has divided this portion of his work into eight different chapters, 1 on sensation, 2 touch, 3 taste, 4 smell, 5 hearing, 6 vision, 7 perception, 8th and lastly, on the comparative physiology of the nervous system.

"Sensation.

"The intentions of the Deity in the creation of the animal kingdom, as far as we are competent to discern or comprehend them, are referrible to the following classes of objects:—The *first* relates to the individual welfare of the animal, embracing the whole sphere of its sensitive existence, and the means of maintaining the vitality upon which that existence is dependent. The *second* comprises the provisions that have been made for repairing the chasms resulting, in the present circumstances of the globe, from the continual destruction of life, by ensuring the multiplication of the species, and the continuity of the race to

which each animal belongs. The *third* includes all those arrangements which have been resorted to in order to accommodate the system to the consequences that follow from an indefinite increase in the number of each species. The *fourth* class relates to that systematic economy in the plans of organization by which all the former objects are most effectually secured.

“ With reference to the welfare of the individual animal, it is evident that, in the brute creation, the great end to be answered is the attainment of sensitive enjoyment. To this all the arrangements of the system, and all the energies of its vital powers, must ultimately tend. Of what value would be mere vegetative life to the being in whom it resides unless it were accompanied by the faculty of sensation, and unless the sensations thence arising were attended with pleasure? It is only by reasoning analogically from feelings we have ourselves experienced that we ascribe similar feelings to other sentient beings, and that we infer their existence from the phenomena which they present. Wherever these indications of feeling are most distinct, we find they result from a particular organization, and from the affection of a peculiar part of that organization denominated the *nervous substance*. The name of *brain* is given to a particular mass of the substance placed in the interior of the body, where it is carefully protected from injury. The sensations, for exciting which the brain is the material instrument or immediate organ, are the result of certain impressions made on particular parts of the body, and conveyed to that organ by the medium of filaments, composed of a similar substance, and termed *nerves*. In this way, then, it has been provided that a communication shall be established between the sentient principle and the external object by which its activity is excited, and on which it is to be dependent for the elements of all its affections, both of sensation and intellect.”

A considerable portion of the Treatise is occupied with the development of the series of means by which impressions from external objects are made on the appropriate organs that are provided to receive and collect them. We must be brief on these different subjects, and those who wish for a more extended field must have recourse to the work itself.

“ Touch.

“ Touch is the most important of all the senses, inasmuch as it is the foundation of all our knowledge of the material world ; so its relative degrees of perfection establish marked differences in the intellectual sagacity of the several brutes, and have a considerable influence on the assignment of their proper station in the scale of animals. The integuments—under which

designation are included not merely the skin, but also all the parts that are immediately connected with it—are the immediate organs of the sense of touch. No parts of the animal structure present greater diversity in their form and outward appearance than the integuments; yet it is easy to discover, amidst all these varieties, that the same general plan has been followed in their construction, and that each particular formation is the result of the same elementary structures. Of these elements the most important, and that which generally composes the chief bulk of the skin, is the *corium* or true skin. The outermost layer is termed the *epidermic cuticle* or *scarf-skin*; and between these there is often found an intermediate layer, denominated the *rete mucosum* or the *pymmentum*.

The *corium* forms the principal portion of the skin, and is constructed of an intertexture of dense and tough fibres, through which a multitude of bloodvessels and nerves are interspersed; but its external surface is more vascular than any other part, exhibiting a fine and delicate net-work of vessels; and it is this portion of the skin, termed by anatomists the *vascular plexus*, which is the most acutely sensible in every point: hence, we may infer that it contains the terminations of all the nervous filaments distributed to this organ, and which are here found to divide to an extreme degree of minuteness."

The author describes the condition on which the perfection of the sense of touch depends in the various living beings that inhabit the sea, the earth, and air: his description is beautiful as it is interesting. Our limits prevent us from entering on this delightful study; we must, therefore, pass over this, together with the different chapters on taste, smell, hearing, and vision, merely remarking, *en passant*, that the author has plainly shewn that these different senses have been harmoniously and studiously adjusted, not only to the properties and the constitution of the material world, but also to the respective wants and necessities of each species in the situations and circumstances where it has been placed by the gracious and beneficent author of its being.

The 8th chapter, on the "comparative physiology of the nervous system," is a very interesting one. Our knowledge of the exact uses and functions of the various parts which compose the nervous system, and especially of its central masses, is unfortunately too scanty to enable us to discern the correspondence which undoubtedly exists between the variations in the functions and the diversities in the organization; yet the author has given us a clear view of the different plans according to which the nervous system is constructed in the several classes of animals, and shews distinctly that these central masses are multiplied and developed in proportion as the faculties of the animal

embrace a wider range of objects, and are carried to higher degrees of excellence.

Confining our inquiries, then, to the more intelligible intellectual phenomena displayed by the higher animals, we readily trace a gradation which corresponds with the development of the central nervous organ, or brain. That the comparison may be fairly made, the author has thought it necessary to distinguish those actions which are the result of the exercise of the intellectual faculties from those which are called instinctive, and are referrible to other sources. In all the inferior orders of the animal creation, where instincts are multiplied while the indications of intellect are feeble, the organ which performs the office of the brain is comparatively small. The sensitive existence of these animals appears to be circumscribed within the perception of the moment, and their voluntary actions have reference chiefly to objects which are present to the sense. But in proportion as the intellectual faculties of animals are multiplied, we discover that an additional magnitude and complication of structure are given to the brain. In man, in whom all the faculties of sense and intellect are so harmoniously combined, the brain is not only the largest in its size, but, beyond all comparison, the most complicated in its structure. "A large brain," says the author, "has been bestowed on man, evidently with the design that he should exercise superior powers of intellect; the great distinguishing features of which are the capacity for retaining an immense variety of impressions, and the strength, the extent, and vast range of the associating principle, which combines them into groups, and forms them into abstract ideas. Yet *the lower animals also possess* their share of memory and of reason: they are capable of acquiring knowledge from experience; and, on some rare occasions, of devising expedients for accomplishing particular ends. But still their knowledge, and their efforts of intellect, are confined within very narrow limits; for nature has assigned boundaries to the advancement of the lower animals which they can never pass. By far the greater portion of that knowledge which it imports them to possess is the gift of nature, who has wisely implanted such instinctive impulses as are necessary for their preservation. Man also is born with *instincts*, but they are few in number compared with those of the lower animals; but that instinct which is the most conspicuous in the human subject, and which is the foundation of all that is noble and exalted in our nature, and which is altogether wanting in the lower animals, is the *instinct of sympathy*."

Here we must beg to differ from the learned doctor; and on this subject we have a perfect right so to do, as we fancy that

we are more intimately acquainted with it than himself—we mean with the metaphysics of the *huoyhnymn*. We are willing to allow that the affections of the lower animals, between individuals of the same species, are observable only in a few instances. We take the horse species for an example; for, in general, they are indifferent to each others' joys or sufferings, and regardless of the treatment experienced by their companions; but by what peculiar instinct is it, if it is not that of sympathy, that the noble animal, the horse, will at once perceive the slightest change in his master's physical temperament, and allow himself so to be influenced by it, that, according as his master's spirits fluctuate, will his own energies rise and fall, wavering

“ From walk to trot, from canter to full speed.”

“ We are certain that no servant partakes so much of the character of the master as the horse; he becomes a portion, as it were, of ourselves; he thinks and feels with us; as we are lively, he is sprightly; as we are distressed, his courage droops. In proof of this, let the reader see what horses some men make—make we say, because, in such hands their character is wholly altered, partaking, in a measure, of the courage and the firmness of the hand that guides them, and of the resolution of the frame that sways them. What that rider wills, they do, or strive to do. When their governing power is relaxed, their energies are relaxed likewise; and their fine sensibilities supply them with an instant knowledge of the disposition and capacity of the rider. If this is not the instinct of sympathy, we know not what to call it. More striking examples might be produced between the elephant and his driver, and the dog and his master. We cannot divest ourselves of the persuasion, that the movements of the higher classes of animals are directed, like our own, to obvious ends, and that they proceed from voluntary acts, and imply the operation of an intellect not wholly dissimilar in its spiritual essence from our own. In vain may Descartes and his followers labour to sustain the paradox, that brutes are only automata—mere pieces of artificial mechanism, insensible either to pleasure or to pain, and incapable of internal affections analogous to those of which we are conscious in ourselves. Their sophistry will avail but little against the plain dictates of the understanding.

We conclude our review, by requesting those who are dissatisfied with our imperfect sketch, to obtain the work itself. In a future No. of THE VETERINARIAN it is our intention to review the Treatise of Sir C. Bell, last in order, but not least in our estimation.

Veterinary Jurisprudence.

IS TEMPORARY DISEASE UNSOUNDNESS?

WARRANTY OF A HORSE.—TOPHAM *v.* MILLING.

MR. Newton, clerk to Mr. Hostage, solicitor, at Northwich, said he was, on the 11th of November, at a public-house at Dunham-on-the-Hill. Mr. Topham and Mr. Milling were there. They were speaking of exchanging horses, and both of them said they had agreed to do so. Mr. Topham was to give £25..10s and his bay mare, which he rated at £9..10s value, to Mr. Milling for his brown horse, on certain conditions, viz. that Mr. Topham was to take the horse, and give him a fair trial, and Milling warranted him sound in every respect; and, besides warranting him sound, if Mr. Topham did not like him after trial, Milling would take him back, and return the £25..10s and the mare, or the value that Topham put upon her. Milling said that the horse would trot ten or twelve miles an hour, and he had come a distance of five miles that day in half an hour. Witness went home with Mr. Topham in his gig. Mr. Topham drove the horse to Northwich; the way they went was about eighteen miles from Dunham; the horse was driven at a very moderate pace, and they were about three hours and a half performing the journey.

On cross-examination, he said he did not hear defendant say to plaintiff when they were making the contract for the sale of the horse, “take him to Youde, the farrier, and let him be examined; don’t take my word for it.” The defendant said the gelding was perfect in all respects, and a good hunter. They had drunk a little gin and water, but all the parties were quite sober.

J. T. Mainwaring lives with Mr. Topham; is a ward of his; is very fond of horses; he recollected Mr. Topham bringing home the brown gelding, and went to look at him: he did not look very well; he looked poorly; he put his head under the manger; there was food in the manger, but he did not feed so freely as he ought to do, or like another horse. Went to him the next morning, but he had not eaten his food, and did not look well then; he was a very bad feeder; witness exercised him almost every night for about a quarter of an hour; he stumbled very much, and was much frightened at any thing he met on the road. He made a great noise in breathing when he was trotting. Mr. Holford examined him about a week afterwards, who gave wit-

ness a certificate, which witness took the next day with the horse to Mr. Milling. The distance was about eighteen miles: the horse went so badly that witness could hardly get him along the road. Witness saw Mrs. Milling, and said he had brought the horse back, and that Mr. Topham did not like him, as he was not sound. Mrs. Milling declined receiving the horse, and said her husband was gone into Wales.

On cross-examination, he said they gave the gelding three feeds a-day and bran mash; but he fed very badly. Witness, when he took the horse back to Mr. Milling's, could not get him to go more than three or four miles an hour; witness did not stop to bait till he came to Mr. Milling's house, and then, when he was refused, he returned back to the Horse Shoe, at Kingsley, where he stopped a quarter of an hour—together twenty-six miles: he did not have him rubbed down, but turned him into the stable for a quarter of an hour to feed.

Charles Gorst is ostler to Mr. Topham. When the horse was brought home he looked very poorly, and held his head under the manger. He had the feeding of the horse, and attended to him. He gave him three feeds of corn a-day, and cleaned him twice a-day. He never ate his food so well as another horse. He had often occasion to take away part of the corn that was given to him. He never said to any body that he would not eat at all, but that he was a bad feeder. He was not fit for work all the time he was there, which was between a fortnight and three weeks.

Cross-examined.—Witness is groom to Mr. Topham, and his name is also over the door of the public-house at Northwich, as landlord. Witness is not the proprietor of the house. The last witness started about seven in the morning to return the horse to Mr. Milling, and returned about four or five o'clock.

Mr. Topham is an auctioneer and sheriff's officer, and therefore cannot take out a licence as a publican in his own name.

Mr. Topham's nephew said he took the horse back to Mr. Milling, after he had been examined by Mr. Holford. He went very badly indeed, and not more than four or five miles an hour. Witness fed him twice on the road, with a pound of meal and water each time. He did not take it freely, as a horse would that was travelling. On arriving at Mr. Milling's house, he took the horse into the stable and tied him up, and then went to the house and demanded back the £25.10s. It was refused, and he immediately went away. He did not look back, nor did he observe the horse running after him as fast as he could.

Mr. Thomas Holford is a member of the Veterinary College. Examined a brown gelding for Mr. Topham on the 18th of last

November; rode him from two to four miles at different paces, and considered him to be thick-winded. Saw him rode by Mr. Newton before Mr. Topham's nephew took him back, and was of the same opinion still.

Cross-examined.—Has been in practice for himself between two and three years, and was a pupil at the College thirteen months. It is a somewhat rare thing for a horse to be thick-winded at five years old, but it does sometimes occur. This disease is not always permanent. It is the effect of inflammation in some of the respiratory passages. I consider any temporary disease to be unsoundness so long as it lasts. Even a cough is unsoundness: a common cold is so as long as it lasts. The horse must have laboured under this affection some time prior to the time of Topham's purchasing him. The duration of such a disease is altogether uncertain; it depends on the violence of the inflammation, and on the mode of treatment. The horse was not a roarer or a piper, but he was thick-winded. It is occasioned in the first instance by a cold. It is unsoundness as long as it lasts.

Mr. Jesse Hopley, farrier, examined the horse when he was rode out. He sweated very much, and breathed very hard, which was unsoundness. It might have been of two or three weeks' standing, or two or three months.

Mr. Jervis addressed the jury at very considerable length, and contended that the thickness in the horse's wind proceeded entirely from a temporary cold, and would cease when the cold was removed.

Mr. Thomas Edwards, livery-stable keeper at Chester, had been all his life accustomed to horses. The horse in question belonged to the Rev. Mr. Gibson, and was seven years old. Witness purchased him of the Rev. Mr. Gibson for Mr. Lowe, in September 1834; he was then quite right. Witness tried him on the Sands, and he was then sound. He remained with witness till Mr. Lowe exchanged him with Mr. Milling for a mare, and gave also £10. He saw the horse last Sunday; he is fat, and in a healthy condition. He appeared to have been in the stable a long time.

On cross-examination, the witness was asked what sum he gave for the horse when he purchased it of Mr. Gibson. "That is a question," said the witness, "I shall not answer: what I give for horses is nothing to nobody."

Mr. Baron Bolland said if the witness refused to answer the question, he should commit him to prison.

The witness then said that he believed he gave thirty guineas for the horse.

Mr. Jeykes, of Newton, said he found the horse after it had been turned out of Mr. Milling's stables by Mr. Topham's nephew. He knew the horse very well. He afterwards examined the horse with Mr. Collier, a veterinary surgeon, who is now in Dublin, who said he was perfectly sound. The horse was examined by several different people. Witness has kept him since he found him turned out. He is a good feeder, and of sufficient pace to trot ten or twelve miles an hour. He is not "groggy" before. The horse is sound now.

Mr. Walters, a practising veterinary surgeon, examined the horse on the 17th of last March, and pronounced him sound. Thick wind is always permanent: a temporary cough is not unsoundness. If he wanted such a horse now, he would not scruple to give £40 for him.

Mr. Hayes, veterinary surgeon, of Chester, examined the horse on the same day as the last witness did. He was sound. Thick wind, in his opinion, is always permanent. A temporary disease is not unsoundness. The horse is worth £40.

Mr. Wm. Fish, farrier at Chester forty years, and Mr. Owen Coyle, farrier at Chester fifteen years, gave similar evidence; the latter stating in addition that Milling gave £50 for the horse.—Mr. Ince gave the same evidence.

The jury were here invited to take a view of the horse, which had been brought into the Castle-yard. Counsel, jury, and nearly every other person, immediately sallied out to inspect him. His appearance was that of perfect health.

The Judge summed up decidedly in favour of the plaintiff, but the jury returned a verdict for the defendant.

PEDIGREE.

REPORT OF M. YVART, ARBITER,

*To the President and Judges composing the Tribunal of Commerce
in the Department of the Seine.*

Gentlemen,—By your decree of the 11th of November, 1831, with reference to a dispute between M. C. L. and Mad. C., you have authorized me to examine the parties, and to bring the affair to an amicable conclusion, if possible; and, if I fail in that, to make my report to you, and tender my opinion on the matter in controversy.

Agreeably to your decree, I have examined the parties, and their witnesses, but have been unable to settle the dispute; and now submit to you the facts of the case, and the opinion which I have founded on them.

On the 16th of August, 1831, the plaintiff purchased of the defendant, for the sum of 3000fr., a filly three years old, of pure English blood, and warranted to be got by the stallion Merlin.

This filly, previous to the sale, had commenced a regular system of training, which was continued by M. L. after she came into his possession.

At the time for the entry of the filly for the stakes in the Champs-de-Mars, a person in the service of Lord S— informed M. L. that the filly was not got by Merlin. Notwithstanding this, however, she ran at the Champ-de-Mars.

These facts are admitted by both parties.

The plaintiff adds, that he afterwards required the defendant to take back the filly, and to return the 3000fr., with all expences; and he founds this demand upon the fact, that she was sold as the daughter of Merlin, to whose stock it now appeared that she did not belong.

In proof of this, Mr. Felix W— produced the stud-book of M. S., in which she is stated to have been got by a horse named Morisco.

It also appeared that, although the progeny of this last horse had occasionally fetched as high a price as that of Merlin, yet at other times they had been sold for much less money, thereby explaining the recognized superiority of Merlin.

To this the defendant replied, that the certificate of the pedigree of the mare given at the time of sale is not referred to in the receipt of the defendant; and that the only object of this certificate was to establish the fact of her being of "pure blood," and therefore entitled to be entered at these races; and that Morisco is of as pure blood as Merlin; and, lastly, that M. L., knowing that the certificate was incorrect, ran her at the Champs-de-Mars, and thereby made her his property.

Considering—1st, That the declaration of her pedigree as delivered to M. L. is false;—2d, That it is not indifferent whether the filly is descended from Morisco or Merlin, since the latter horse is in much higher repute than the former one;—3d, That in the sale both of blood-horses and mares, and destined either for the course or for breeding, it is usual to deliver a certificate of pedigree, on which the value of the animal very much depends; and that if this certificate were not to be relied on as perfectly true, an inlet would be opened for the commission of the grossest frauds;—4th, That if M. L. had not been deceived by the certificate, he either would not have purchased the filly, or would have purchased her at less price;—5th, That at the time of the entry of the filly he had not full proof of the falsehood of the certificate;—6th, That, before he seized the opportunity of en-

tering the filly (already partly trained by Mad. C.), M. L. had been compelled to perform some acts of proprietorship ; and that, in this point, the only part of the case with regard to which there can be the slightest doubt, the act of proprietorship is usually explained in favour of the buyer rather than the seller ;

I am of opinion that the demand of the plaintiff is well founded, and that the defendant is bound to restore the sum of 3000fr., and to pay all expences, allowance being made for any depreciation in the value of the filly from any other cause since the time of sale.

Such, gentlemen, is the conclusion which I have the honour to submit to the wisdom of your ulterior deliberations.

YVART.

Coinciding with the opinion of M. Yvart, the tribunal condemned Madame C. to take back the filly, to return the 3000fr., and to pay all expences.

Curiosa.

PLEASING.

5th April, 1835.

Dear Sir,—IT is now about seven years since I left "*Auld Reekie*" with my diploma as a veterinary surgeon, and only seventeen shillings and sixpence in my pocket, to go, like "Jack the giant killer," to push my fortune in the wide world ; and, without troubling you with a long detail of all my adventures by "flood and field" since I settled in this canny nook, allow me to say, that mine has been a lucky lot, and surely, as the proverb says, I must have been "*born wi' a siller spoon in my mouth,*" and no "*wi' a wooden ladle,*"—that instrument so much prized by my honest, couthie, but now almost forgotten countrymen. Forgotten ! did I say ? No, no, they will never be forgotten ; for the remembrance of you, and the remembrance of them all, is twined round the strings of my very existence. But to my story. After the first week that I had travelled, I found myself employed, on the Monday following, *strapping stage-coach horses* at an inn about twenty miles from where I am now writing. Yes, strapping dirty horses ! and sometimes abused because I was not so clever as my superiors would have wished me to be. But I did not murmur at my *beastly* employment, because I could not avoid it ; and besides, it was an honest shift, although some of my late cigar-smoking class fellows would have been ashamed of my clouterly, uncouth appearance, with habiliments of the worst possible description, and of the worst possible shape, and that

hung about me like a *sheet spread upon a fire-screen*. I say, although my late companions would have been ashamed of me, and of my employment too, yet I was not ashamed of it, nor am I ashamed even yet to say that *I gloried in it*.

I was, however, but a very brief period employed as a *strapper*, as from the care and pains which I took in cleaning and watering the horses they soon mended in their jaded, worn-out appearance, for they were regularly fed, because I was regularly sober, a state, I have been informed, in which my predecessor was never in after mid-day. In a few weeks more I was exclusively employed in feeding and looking after the horses, and this employment, at eight shillings a week, bed, board, and washing, with the sweet smiles of a blue-eyed, cherry-cheeked bar-maid, were enough to have turned a wiser head than I at that time possessed; but I was a *canny Scot*, and my blood had not reached its meridian, and the side-long love-glances of the bar-maid fell as lightly on me as snow upon the ocean, and they did me as little mischief as water thrown upon a *clacking hen*. In a few days after I had been made *chancellor of the corn and bean chests*, a circumstance occurred which called forth my scientific acquirements: it was this,—one of the horses was brought home, as the driver said, “*summat poorly*,” and the regular mis-named doctor was sent for, who pronounced it a case of inflammation of the bowels, and bled the poor animal with a vengeance. I had never said to any one who or what I was; and every body about the place knew that I had been employed as the “*lowest of the low*,” an *under-strapper*, and I said nothing about the profound ignorance of the doctor; but I saw, from every symptom which the horse exhibited, that it was a case of *irritation*, and not *inflammation*, as the doctor supposed. I, of course, informed *master* of what was going on in the stable, and entreated him to order the bleeding to be stopped immediately, as the horse was rapidly sinking under it; and if I was found to be wrong, although I was sure that I was not, I would serve him for two years for nothing. The bleeding was stopped; and after I had received a sufficient quantum of angry *cursing* from the doctor, for interfering with his *cures*, or rather *kills*, and who called me a *beggarly, lousy, Scotch blackguard*, *master* paid him off that very hour. Then followed such a scene as I cannot well describe, I was so confused: but I was raised to the *peerage*, and although the astonishment of all the natives was great at seeing such a great change (even greater than at the dissolution of the late whig ministers) yet I was not greatly surprised at it, and I will tell you why—because, some years before—some twenty years before—my *granny* often said, speaking of me, that “*she was sure that callant would come to something yet; for*,” added she,

“*if there be a big tatae i’ the pat he’s sure to get it.*” But the change to me was great; indeed I scarcely know a greater, unless it was in *Joseph*, when made “chief of Pharaoh’s house, and ruler over all the land of Egypt.” But there was really little of Joseph in my composition, but more of this, mind ye, when I see you, which will be in three weeks. Now, to be done, I cured poor Rover, for that was the horse’s name; I cured Jimboo; I cured them all safely. Then I directed where I used to obey; I commanded those to whom, before that, I dared not speak without touching my *chapeau*, and I was always very awkward in doing it, and called a *Scotch, clumsy son of a* (it matters not what). In two years in this situation I had made upwards of £200, and, with this sum, I set up a regular *Vet.*; and, as I was employed *far and near*, you will not wonder that I had made so much. Upon leaving my kind employer (this is the most interesting part of my story), he called me into his library, and said, “You are now leaving me, faithfullest of servants (here the tears ran down his cheeks, and *mine ran too*); you are now,” said he, “about to leave me and this place, and, as I understand, *you will soon take away Lavinia also* (this was an only daughter); this place has now no charms for me. Come hither, Lavinia,” said he, addressing her; “you have been a dutiful daughter to me, and you will make a loving wife. Take her,” said he to me, “and be kind to her, and endeavour to grow wise as you grow old, and a blessing will always attend you both.” After saying this, the kind old man took me aside, and put a cheque for £1000 on his banker into my hands; and, said he, “if I could not think that you would do well with this money, I would not have given you my daughter: farewell.” For four years past we have lived all together,—happy as happiness can make us; and although there be *a new member sworn in* almost every year, yet we are not the less contented for these occurrences.

You may make what use of this letter you please before dismissing your class this session, as it would shew some of the students the necessity of *lowering their ideas*, when necessity bids them.

Yours, ever truly,

ANNOYING.

23d April, 1835.

Sir,—You did not use me well this morning. I was desired, on the preceding day, to call at ———, to look at a dog suspected to be rabid. I found him loose in the garden. In order

to ascertain the actual disease I was compelled to go into the garden to him. Fortunately, he was naturally a quiet fellow.—I examine him, and satisfy myself that he is rabid. I return, and inquire what possible mischief may have been done. I find that the lives of three persons are at stake. He has, far within the time when the disease becomes contagious, fawned upon and licked the mistress of the house, her daughter, and the servant. The young lady and the servant have chaps and small scratches upon their hands and wrists,—they have more than sufficient abraded surface to admit of fatal inoculation. The lady has a pimples eruption on her face, which in too many cases has likewise proved to be fatal.

The dog was rabid: I stake my professional reputation on the fact. I inquire who is their medical man, that I may privately communicate with him. I am told that they have lately come here, and have no medical attendant. Then, fully aware of their fearful situation, I offer to apply the caustic to the abraded parts, and thus avert the evil that hangs over them. I do so—I apply the caustic to the hands of the young lady and the servant—I touch some spots on the face of the lady. I am there an hour and a half. I promise to call the next morning and examine whether the application is likely to be effectual; and for all this I charge the sum of one sovereign.

I call on the following morning, and I am met with a denial that the dog was rabid, and a refusal to pay my demand, and with an insulting offer of FIVE SHILLINGS!!

Now, Sir, have you used me well? Apply to your own surgeon—state the situation of the dog—the saliva running from the mouth—the *half* closed mouth—the squinting—the staggering gait—the difficulty of swallowing; and ask him whether these things are or are not characteristic of rabies.

State what I did, and the circumstances under which I did it; and inquire of him whether my demanded fee was exorbitant, or whether it ought not to have been double, treble what I asked.

On these things I rest the paltry fee. You may have misconceived the matter; but you will not persist in acting unjustly.

And now, Sir, for another and more painful part of the subject. *The dog was rabid*. The three persons whom I saw had more than sufficient abrasions to give reasons for fear—Mrs. ———'s hands were not sound. I said that I called the second time to examine the state of those who had been exposed to danger—I was not permitted to see them. My calling again is out of the question: but let me urge you not to let the matter rest here. By the sympathy which you ought to feel for those in

the house, and by the love you bear to one object, let the case be farther inquired into.

Dare I name the man? send for ———. He has more experience about rabies than any other surgeon whom I know. Tell him that I have seen the dog (don't tell him, for your own sake, of the five shillings), tell him what I say, describe to him the symptoms as I have stated them, let him examine every patient, and submit to his decision.

I urge you to do this, and your own heart will tell you that there needs no apology on my part for pressing this upon you.

I am, Sir, your very obedient servant.

SURPRISING.

HOW TO STOP A STARTLED HORSE.

DR. De Chemant has suggested the following means of preventing accidents from high mettled horses:—"The muscular strength of the horse being greater in the flexors than the extensors, a small chain, of about three yards long, covered with leather, and contrived to fall, at pleasure, a few inches below the joint of the knee, would slacken the horse's pace, or stop him at will. To accomplish this, the chain must be fixed to the harness by the two ends, about the middle of the body; and, for greater security, a small piece of copper, one or two inches wide, could be placed on that part of the chain which would fall on the horse's knee, so as to embrace the narrow part of the leg, and which would prevent the chain from sliding upwards.

"When not in use, the chain may be suspended round the neck of the horse, or be attached to the centre of the collar by a small cord which would pass behind the ears, and be fixed on the harness at the top of the head. Then, by means of a spring, made for that purpose, the chain could be let down at the will of the driver, or of those persons inside the carriage.

"To this invention may be added the following simple means of depriving the horse of his sight in an instant:—A pair of leather winkers, made concave, may be fixed to the harness on the forehead with a spring, and which, on pulling the same cord that lets down the chain, would also close over his eyes."

Atlas newspaper.

Miscellanea.

A LIFE PRESERVER.

A MARINE who had just joined the ship, and who was unacquainted with the excellent qualities of the dog, endeavoured, while bathing, to entice him from his station into the water. The noble animal paid no attention to his invitation. One of the crew told the marine, that if he swam out of the sail, and would call out as if in distress, and suit the action to the word, Mr. Boatswain would certainly obey his summons. The marine took the hint, got out of the sail, and began to enact the part of a drowning man to perfection. The dog instantly sprang into the water, with his ears erect, and his eyes flashing fire from intense anxiety. Away he swam for the soldier, who, on the approach of his canine friend, began to have some misgivings as to the wisdom of his proceedings. He became alarmed lest the dog should seize him, which manœuvre Boatswain appeared resolved to execute. His fears increased the dog's endeavours to effect his purpose; and, finally, he roared out most lustily for help from his shipmates. The louder the poor devil sung out, the more determined was the sagacious brute to seize him; and he very soon accomplished his purpose, and grasping him firmly by the hair at the back of the neck, and twisting his face towards the heavens, brought him alongside, amidst the convulsive roars of laughter of the whole of the ship's company, and the piteous cries of the jolly marine. Boatswain would not resign his hold till the frightened man was assisted up the side: the bite of a rope being placed overboard for his conductor, he placed his fore legs in it up to his shoulders, and holding himself stiff out, was hauled up, and calmly resumed his watch, as if nothing had happened.—*Scott's Recollections of a Naval Life.*

PARENTAL AFFECTION IN A HEN.

A GENTLEMAN in the Haugh had a hen with thirteen chickens, about three weeks old, which were occasionally indulged with a ramble in the garden. During the height of the flood, the hen-house was surrounded with water, and the brood were confined for two days. On Friday the hen was observed walking out of her prison-house with four of the chickens on her back, which she deposited on a dry spot in the garden. She returned, knee-deep in the water, for a second freight; and, having lowered herself to enable the young ones to take their passage on her back,

they leaped up, and were carried in the same manner. By this time the chickens in the garden and those in the hen-house began to be clamorous, and were attempting to follow their parent, who was in sore trouble and confusion, not knowing which of the division to attend to first. To prevent serious consequences, however, the servants interfered, and landed the whole safely in the hen-house, out of which no attempt of removal was made until the flood had subsided.—*Inverness Courier*.

VETERINARY SOCIETIES.

WE understand that at his lecture of to-day (April 27th), Professor Coleman, after eulogizing, in warm and just terms, the society for the discussion of veterinary subjects at present existing at the College, addressed his class on the advantages which would result from the establishment of one of a more general nature; and to which the practitioners of the metropolis might sometimes be allured.

The present society, in which each student, in his turn, is compelled to defend a certain thesis against all opponents, by the cross-questioning and the badgering of which it admits, puts every youngster on the alert, and forces on him the knowledge of many a point of anatomy and physiology, of which he would otherwise have possessed a very obscure and unprofitable conception; and it is an admirable preparation for his examination. This very circumstance, however, has its corresponding evils; and few practitioners, however accurate and varied their acquaintance with the grand principles of their art, would like to grapple with youths fresh from the dissecting table, and who would consider the slightest error with regard to minuteness of structure imperfectly compensated for by the sublimest conceptions of nature and of truth.

It was a misfortune and a disgrace to veterinary science in this metropolis when the Veterinary Medical Society became defunct. There is too little communication among veterinarians here, to expect that they will soon be brought to coalesce in the formation of a similar one; but if such an one commences at the College, and is orderly conducted, and on the principle of medical societies generally, and supported by the presence and countenance of the heads of the College, we have no doubt that the best of the metropolitan practitioners will be gradually attracted thither, and the interests of veterinary science essentially promoted.

Y.

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLVIII.

The Treatment of Tetanus.—Bleeding.—Purging.—Opium.

Treatment.—I HAVE to speak this evening, gentlemen, of the cure of tetanus. This is a most unsatisfactory portion of my subject. The indication of cure is plain enough: *the system must be tranquillized*. Ay! but how? I have found—every veterinary surgeon, I believe, has found—this to be an exceedingly difficult affair; and we have failed oftener than we have succeeded. There is one exception, indeed—that of Mr. Wilkinson, who, in a treatise which he published on this disease, gives us a list of cases in which the successful ones were almost or quite (for I have not the book now at hand) three to one. Mr. Wilkinson was a respectable and skilful practitioner, and here, it would seem, a fortunate one too; and far more fortunate than you will be, especially if you pursue the whole of his plan of treatment, which is seriously objectionable on various accounts.

Venesection.—You will anticipate me in the first thing which I should recommend. Bleed—bleed copiously—abstract as much blood as you can get. Nothing is so likely to lessen such an extreme state of nervous erythism as this. There is no more powerful sedative than venesection carried to its proper extent in cases of muscular spasm. We effect a double purpose—we lessen the determination of blood to the common sensorium and to the origins of the nerves; and by which they were enabled, if I may so express myself, to secrete and to pour out this torrent of nervous influence; and we lessen the supply of blood to the muscular system, and by the vivifying power of which alone that system is enabled to respond to the stimulus of the blood. There are many diseases in which we may well hesitate as to the propriety of bloodletting, at least to the extent which I recommend

here; but in tetanus there cannot be a doubt about the matter. You take away the pabulum of the nervous and the muscular systems—the life of both—the capability of acting in the one, and of being acted upon in the other. Therefore, my advice would be—founded both on theory and experience—on the first access of tetanus, bleed; and bleed until the horse falters or falls.

The different Degree of Resistance to the Effect of the Loss of Blood.—I have often, gentlemen, endeavoured to impress on your minds the change which different diseases produce, temporarily at least, in the constitution, as it regards the power of bearing the abstraction of blood; and I may add, the perfect change in different stages of the same disease, and in the same animal at different times. I have had for my object in this, to put an end to the idle and mischievous practice of directing *specific quantities* of blood to be taken, and leaving to an assistant the abstraction of that blood; and also to impress deeply on your minds this golden rule—this rule without exception—that your bleedings must be regulated by the effect which they produce on the circulation. Bleed until the pulse falters: if I ever allowed you to go beyond that, it would be here. In acute inflammation, and particularly local inflammation, and more of a serous than a mucous membrane, there is a resistance to the effect of the loss of blood, obstinate beyond what you would think possible. I have more than once taken away 20lbs. of blood, before I could accomplish my object; but I have uniformly persisted, and sometimes to the great terror of the owner. I have never had occasion to repent of having done so. I take this resistance to the loss of blood as one of the strongest proofs I can have of the intensity of the inflammation, or the extreme degree of irritability; and as one of the plainest indications of the necessity of bleeding, and also an important guide in my prognosis. Forgive repetition here, for this is the corner-stone of all good practice.

Objections answered.—But do I not diminish that general strength which the animal will by-and-by need in order to enable him to support the protracted and violent spasm?—Do I ultimately weaken the horse when I bleed him until he drops, in order to lessen, or possibly knock down at once, inflammation of some vital organ? I should weaken him by suffering the disease to prey upon his frame. I should weaken him by small and repeated bleedings which sapped his vital power, but diminished not in the slightest degree the power of the enemy. This is an argument of the old school, and unworthy of the present state of veterinary science. The grand principle of veterinary practice—which I shall not have laboured in vain if I can

establish in your minds—is to subdue inflammatory action by the promptest and most efficient means,—depletion. I speak of no specific quantity to be taken away ; but I give you an unerring guide,—the pulse. While that remains firm, bleed on, for you are attacking the disease, and not in the slightest degree hazarding the permanent strength of the patient.

I am fully aware that if I was advocating this mode of treating tetanus in the human subject, I should have the opinion of some excellent pathological writers decidedly against me ; and as it is, I know that I am opposed to some, but not many, good veterinary practitioners. Perhaps I should say, even then, that the objection to venesection has been oftener supported by the mere *ipse dixit* of the author, than by any appeal to fact, or even to sound pathological reasoning ; and I should repeat, that I could not act on a sounder pathological principle, than to endeavour to withdraw as much as I could of that which I have described to be the life of both the systems involved—that to the presence of which the one owes its capability of acting, and the other its power of being acted upon—the menstruum, by the interposition of which, if I may dare say so, the different electricities of the two substances are developed, and the galvanic effect produced. But I am a mere veterinary surgeon, addressing veterinary pupils. I am describing the diseases of quadrupeds, and the proper medical treatment of them ; and I must not, will not be deterred from following my own course, either by the somewhat unfounded prejudices, or the soundest inductions, of human practitioners, or even the most overwhelming accumulation of facts as it regards the human being.

A Case stated.—About four years ago I saw, I trust for the credit of human nature, a very rare case of tetanus. A cabman, who had been seen driving his horse about town from an early to a late period of the day, came not back to the stables at the appointed hour. The night passed, and he came not ; but in the course of the following day the cab-master received intelligence that his horse, looking like a dog-horse, had been seen at the door of a public-house thirty miles from home. He immediately despatched one of his men with a constable by coach in that direction, with peremptory orders, wherever they found him, and whatever might be the state of the poor animal, to put the fellow into the cab, and to make the best of their way home, in order that, as the sessions were just commencing, he might have the pleasure of punishing the scoundrel without delay. They found him early in the morning of the second day. They ascertained that he had been driving in every direction about the country ; that the horse had not been taken out of the cab ;

but that, the contents of the nose-bag being consumed, he had had nothing but an occasional wisp of hay, and not always that, where the fellow stopped to bait himself; and, in fine, that the animal was in the most dreadful state of exhaustion: but they knew the brutal character of their master, and that he would sacrifice a dozen horses, and this among the rest, although he was his very best, rather than delay his vengeance an instant. In fact, they were as bad as himself: they put the driver into the cab, and whipped on the poor horse, and accomplished their journey home—thirty-six miles—in little more than three hours, and with merely pulling up once to water the exhausted animal for a few minutes. The scoundrel-master did not expect them so soon, and was out of town; and as the horse was distressed to a most pitiable degree, and in the opinion of the ostler something worse was coming upon him, I was sent for. I saw him within a quarter of an hour after his arrival, and he was perfectly tetanic.

The Case continued.—Did I act upon my system of bleeding here? No; but I ordered him to be made as comfortable as possible, and I gave him a good cordial drink in a half pint of the oldest and strongest ale I could procure. I saw him again in half an hour. I fancied that the reaction which I wished to produce had commenced. I staid a little longer, until I was assured of it, and then I bled him, and took as much blood as the pulse would allow. The effect was magical; the tetanic spasm was not only relieved, but it disappeared; and I immediately took advantage of it, and threw in a mild dose of physic. In the meantime the owner returned. We had previously differed about horse-matters, and, as I expected, I was dismissed. Tetanus returned, and the horse was ultimately lost: he possibly would have been so under my treatment.

Bleeding in after Stages.—The propriety of bleeding in the after-stage of the disease much depends on the circumstances of the case. In sudden exacerbation of the spasm, or the evident appearance of fever, I would bleed without scruple; and I would be guided by the same rule: the blood should flow until the pulse indicated the desired constitutional affection. If I can lessen this furious working of the muscular fibre, if I can reduce this tearing along at full speed to a little more moderate pace, or if I can obtain a slight interval of comparative rest, the expenditure of animal power which I prevent far more than counterbalances the loss of blood.

Mr. Saunders, of Wolverhampton, has related two instructive cases of the successful treatment of tetanus by repeated bleedings. He took from each horse 56lb. of blood in the course of

nine days. I have little faith in the small quantity of digitalis, or the two doses of aloes which he gave; but after every bleeding the horse was relieved. I confess, however, that I want more evidence as to the general effect of such a plan. I have considerable doubt about it, and should be inclined, after the first venesection, to trust to my opium and my aloes, reserving the lancet for any unexpected exacerbation of the complaint. The *Recueil de Méd. Vét.* contains a case, in which a horse with the jaw immoveably locked was cured by the abstraction of blood assisted by injections alone. On the first day 12lb. of blood were taken, twelve on the second, and eight on the third day, when complete relaxation of the spasm had taken place.

The Importance of Physic.—Next in order, and equal in importance, is physic. This profuse bleeding, if it does no other good, will generally relax the muscles of the jaw so far, that you will be enabled to give a dose of physic. You must take instant advantage of this, and give a good strong dose, except perhaps in such a case as I have just related, when you have the terrors of pneumonia before your eyes. Eight or ten or twelve drachms of aloes should be administered. This is the best purgative, if the state of the jaws will permit you to administer it. It is the most to be depended upon—it is the only one thoroughly to be depended upon in the horse. If, however, the remission of the spasm is very slight, there is another purgative not so certain in its action, sometimes dangerous, and no great favourite of mine—the farina of the croton nut: this may be given in the form of a very small ball, and to the extent of a scruple; and it should be followed up by the solution of aloes, in doses, each of them containing four drachms of the gum resin, and repeated every sixth hour, until purgation is produced.

There is little or no danger of exciting inflammation of the mucous membrane of the intestines by this prompt and energetic administration of purgative medicine, for there is too much determination of vital power towards the nervous system—too much irritation there to leave us cause to dread the possibility of metastasis elsewhere. I should be better pleased if I could excite a certain degree of inflammation in the mucous membranes, because I should hope that I might, to a proportionate extent, allay this powerful excitation of the nervous system. I have another reason for the administration of these large and repeated doses, viz. because I have cause to fear that I shall soon lose the co-operation of the abdominal muscles in keeping up the peristaltic motion of the bowels, and expelling their contents; and shall not only

be left to the unassisted power of the organic nerves, but shall have that power opposed and almost destroyed by the continued spasm and compression of the abdominal muscles.

Physic, then, is indicated as relieving the intestines, and principally the larger ones, of the fecal matter by which they may be oppressed,—as possibly removing some source of irritation connected either with the origin of the spasmodic action or its continuance, or its violence—as lessening to a material degree the quantity of the circulating medium, and, when it is fearlessly continued, and pushed to its full extent, abating the force of almost every nervous affection.

Clysters.—The action of the purgative should be excited and kept up by means of clysters, which we are now enabled readily to administer, and in what quantity we please, by means of Read's patent pump. I have not, for many a year, known a more valuable addition to our apparatus; and in this disease it will be an indispensable auxiliary, for reasons which I have just stated. Warm soap and water—not too strong of the soap, or warm water in which 8oz. of Epsom salts have been dissolved, or to which 4oz. of the solution of aloes have been added, will form the best clysters; and the quantity administered and the frequency of administration will depend on the degree of constipation. The feces must, if possible, be kept in a pultaceous state; and in order to accomplish this, I should not scruple occasionally to throw up a bucketful of fluid at a time. I would not only completely fill the rectum, but force on a portion of the injection into the colon. The assistant must be always prepared with a wisp of hay, and place it on the anus the moment the pipe is withdrawn, and hold the tail strongly down; for such is now the pressure of the abdominal muscles on the intestines, that the fluid will be immediately expelled with a force that would be scarcely thought credible.

Sedatives.—Next I inquire, have I any drug that possesses a general sedative power over the horse, or that exerts a direct influence on the nervous system?

DIGITALIS.—We must know little of horse-practice, if we have not witnessed the power of digitalis over the heart and the circulatory system; and, in many a chest affection, we have hailed with true delight the intermittent pulse, a fearful symptom in the opinion of the uninitiated, but to us the certain harbinger of returning health. This, however, hardly suits our present purpose. The influence is too indirect—it is too much confined to the organic system. There may be pauses in the supply of arterial blood; there may be, on the whole, a diminished supply, but this will go only a little way to subdue the dreadful excitation of tetanus.

WHITE HELLEBORE.—We often experience the beneficial agency of hellebore in lessening the rapidity of the circulation, or allaying general irritability; and this seems to be effected by the direct power of hellebore on the common sensorium, and an increased determination of blood to that organ, producing, if I may dare to use the term, a benumbing effect on the sources of nervous influence, both animal and organic. I seem to have found what I wanted here; but experience teaches me that I must at all times administer the hellebore in very cautious doses—that I must watch it almost every hour—and that if I go a little too far, I have coma, convulsions, death. This frightens me, where my only hope of success consists in outrageous doses, and those often repeated; and the dangerous effects of which may be sudden in their appearance, and bid defiance to all my attempts to arrest their progress.

OPIUM.—In opium I have a sedative of acknowledged effect on every system, and with little, or, I may almost say, no narcotic power on the quadruped. If I have local inflammation—inflammation of the conjunctival membrane—a drop or two of the vinous tincture of opium introduced into the eye frequently acts as a charm. If I have inflammation of the mucous membrane of the intestines, whatever else I may give, I have recourse to opium as my main dependence. I find, by the cessation of pain and mucous discharge, that it has soon relieved the irritation of the membrane generally; and, by the greater consistency of the fecal discharge, that the open mouths of the exhalent vessels have been quieted down to the natural exercise of their functions. It is an astringent, because it is a sedative: and I can administer this drug to almost any extent without dangerous narcotic effect being produced. Then to this I fly; and I find it my sheet-anchor in the treatment of tetanus. I give it in large doses: I must do so, for I have a formidable enemy to encounter; and I am encouraged to do so, for all that I can at any other time fear from it is, that it may a little overact its part, which it is scarcely possible for it to do here.

To the smallest horse I should give a drachm of powdered opium, morning, noon, and night; I should increase the dose in proportion to the increased size of the animal, and to a large horse I should not scruple to give two drachms three times in the day. If it can by possibility be managed by means of a probang or flexible cane, it should be given in the form of ball. There is more in this than I can perhaps explain. I can give a larger dose of purgative medicine with safety in the form of drink than I can in that of ball. I can perhaps get it to act a little more speedily, but it does not act so powerfully, and that

by a great deal. In proportion as it is diffused over a larger surface, its effect seems to be weakened, and it sooner passes over that surface, and ceases to act. I must have the whole power of a drug concentrated for awhile on a particular spot, and then, by the too little appreciated influence of sympathy, its power conveyed to every part of the intestinal canal. It was long before I could comprehend or believe this. It has an appearance of being inconsistent with all our established notions of the action of medicines, but I am thoroughly convinced of it now.

Mr. John Hinds describes a method of procuring temporary relaxation of the jaw. He tells us to place a piece of wood on the forehead of the horse, and to strike a smart blow upon it with another piece or a small mallet. The jaw will immediately be relaxed, and some substance may be placed between the teeth, to prevent their return to their former closeness. I confess that I have never tried this plan. If it succeeds, there really is some good in Mr. John Hind's book.

French Notions of our Practice.—Hurtrel d'Arboval recommends opium as the main hope of the practitioner in the treatment of tetanus; but he says that "the French surgeons are in the habit of giving it in doses of only a few grains of the tincture or the extract, with decoctions of marshmallows or poppy-heads; whereas the English, bolder but not more skilful, gave at a dose three ounces of tincture of opium with sulphuric ether, and brandy, and ale." I do not know where the author of the Veterinary Dictionary picked up this precious intelligence—I do not think that either Clater, Knowlson, or even John Hinds himself, would recommend this compound of spirit of wine, and ether, and brandy, and ale; but if we are more fortunate than our neighbours in the treatment of this disease, it is because our practice is bolder, and more skilful on that account. In the course of treating a case I have given twelve, fourteen ounces, and even a pound of crude opium to a horse, and succeeded at last; but I never gave the laudanum, or ether, or brandy, or ale: then I might have been characterized as bold, and it might very properly have been added, "but not skilful."

There is one mode of obtaining the desired effect of many drugs, in which the practice of our continental brethren deserves commendation and imitation,—I mean through the medium of the absorbents. If the cuticle is raised by a blister, opium or aloes spread on the abraded surface produce, I will not say their full effect, but a very considerable one. In many cases of tetanus this may be turned to very good account.

A NEW MODE OF TREATING STAGGERS (VERTIGO).

By M. DESAINT, M.V., Dépôt, Pontivy.

M. HUVELLIER having described the good effect which attended the use of white mustard seed in staggers (see *THE VETERINARIAN*, Dec. 1834, p. 655), I also beg leave to narrate a mode of treatment peculiar, I believe, to myself, and which has been attended by results as satisfactory as I could desire.

CASE I.

July 11th, 1833, 4 P.M.—A strong horse was suddenly taken ill while he was eating a feed of corn. I was immediately sent for, and found him stretched on the pavement, with his head under the manger. I hastened to loosen his halter—got him up, and had him led into the yard. His walk was uncertain and staggering—he slipped several times on the pavement of the stable, and he fell on his head at the door, where the ground was a little inclined.

When got into the court, he started at a quick pace—if he was stopped he reared, or threw himself on his head on the ground. The eyelids were opened widely—the eyes fixed and dull, and the pupils dilated. The tongue, of a blue colour, was swelled, and half protruded from the mouth, from which there ran a thick and ropy discharge. The artery was hard, and the pulse a little irregular.

He was copiously bled, which was effected with difficulty, on account of his sudden and violent movements; a strap, however, was fastened round his neck in order to compress the jugular, and the blood was suffered to flow on the ground.

A moment of calm followed the bleeding, and I profited by it, and administered a pint and a half of cold water, strongly etherized. The closing of the jaws, and the protrusion of the tongue, were powerful obstacles to this; but we succeeded in getting down the greater part of the medicine. We then administered an injection of warm water, strongly ammoniated, which procured an immediate and copious dejection. The alkali seemed to produce a derivative excitement of the mucous membrane of the rectum, which was durable and effective. Simple emollient injections were afterwards employed.

I then had him led into the school, and fastened him in the centre of it, by means of a swivel, so that he could describe a considerable circle, and I waited the effect of the first treatment.

Three or four hours passed, and there was no improvement. It then occurred to me that I would inject up his nostrils cold

water, strongly impregnated with ammonia. He was suddenly startled by this; he made a long inspiration, stretched out his fore legs, and then, by a powerful muscular effort, threw himself on his haunches, from which position it was impossible to move him. Violent and reiterated sneezing terminated this state of excitation; every muscle relaxed, and the horse fell on the ground in a state of exhaustion.

His mouth was gargled with mucilaginous water and honey; and his nostrils, eyes, and lips, were washed with cold water.

The vertiginous symptoms diminished in intensity and frequency, and the night was passed quietly.

12th.—Not seeing any decided amendment, I cauterized the upper part of the neck, and as near as possible to the occipital bone, with a flat iron, sparing only the part which would be occupied by the band of the head-stall. I also carried the cautery over the whole of the forehead, and afterwards applied a blister over the whole. This produced, before night, very considerable swelling and soreness.

During the day, the patient continued to traverse his circle tolerably quietly; sometimes we stopped him, and at other times he would rest a little himself: at night I caused some straw to be spread on one part of his track. About the middle of the night, he began to move more slowly; he stopped two or three times at the place where the straw had been scattered, and at length, overcome by fatigue, he lay himself down and slept during several hours. On awaking he stretched his head towards the straw—he seemed to smell it, and moved his lips as if he would seize it. The attendants then offered him some gruel, flavoured with honey, a little of which he drunk: his tongue had now re-entered the mouth, and the animal was able to move it.

13th.—He began to distinguish objects. He lifted his head at the sound of the whip, and shrunk when a hand approached his eyes. All his functions began to resume their former course, and he was decidedly convalescent. His progress towards perfect health was rapid. I retained him in the hospital until the 20th of August; he was then discharged, and has continued well.

CASE II.

A horse, belonging to the 2^d Cuirassiers, had not been well during some days, but the disease had not assumed any decided character. On the 17th of April, 1834, after his noon-feed, he exhibited symptoms of vertigo; his walk was staggering—he slipped several times as he went out of the stable, and,

as soon as he got into the yard, would have run away. His eyelids were dilated, and the appearance of the eyes and general countenance left no doubt with regard to the real nature of the disease.

He was copiously bled; a drink with ether was administered, and cold water, with ammonia, thrown up his nostrils. The same effects were produced as in the last case.

Instead of using the cautery I inserted two setons in the poll; I rubbed the blistering ointment over their track, and also over the forehead; and I placed the horse in the school, as I had done the other.

The patient had no relapse—the symptoms speedily diminished in intensity—the functions of the different organs of sense were resumed; and at eight o'clock on that night the horse was taken out of the school, and placed in the infirmary.

He afterwards had a slight attack of enteritis, which was soon removed.

On the 1st of May he was perfectly cured.

CASE III.

A horse belonging to the 7th Cuirassiers exhibited on the 20th of June, 1834, symptoms of enteritis. Acute pneumonia succeeded to this, or was complicated with it, and the horse remained in the infirmary until July the 2d, when he was dismissed perfectly cured, and with very little loss of flesh.

September 14th.—At the evening feed the horse was dull, and scarcely ate. I was sent for, and on examining him I discovered a small tumour on the left side of the upper part of the head, and a little excoriation above the eye on the same side. No marks of disease were now observable either in the pulse or general appearance of the animal. He was led to the watering place, and drank as usual, and on his return to the stable seemed to have recovered his appetite, and ate the remainder of his corn: I concluded from this that he had received a severe blow on the head, which had produced temporary stupor.

15th.—I was summoned early to him. He now refused his food, his head was low, and various parts of his body were agitated by spasmodic motions. I caused him to be led into the yard, and there his manner of walking and the expression of his countenance assured me of the nature of his disease.

The same means were adopted as in the former cases, and attended with the same results, so far as the symptoms of vertigo were concerned.

During the rest of the day, and on the 16th, he was evidently

improving : but I was not satisfied. He did not lie down, or appeared to suffer much in the attempt to lie down. He would take liquid food, but, after partly chewing that which was solid, he dropped it from his mouth. We gave him the powdered mustard as recommended by M. Huvellier.

17th.—There is little alteration.

18th.—About the middle of the day he had another seeming attack of vertigo, which lasted about two hours ; he then became calm, but new symptoms appeared. The mucous, inodorous fluid which the horse had discharged from the nostrils after the injections, had become exceedingly fetid, and his breath was very offensive. If he lay down, it was but for a moment ; his respiration was laborious, and accompanied by a loud yet plaintive sound. When he stands up he is relieved, and a kind of calm succeeds. The patient after this remained standing until midnight, when, again lying down, the same symptoms were exhibited, but with much greater violence.

19th.—At two o'clock in the morning I was called by the guard. The horse was stretched on his litter, and his breathing seemed dreadfully laborious and agonizing. The pulse was scarcely to be detected. Much stinking mucus was collected about the nostrils, and more rattled in the bronchi and trachea. I opened the trachea, and then, on the supposition of a purulent effusion in the air passages, I introduced the canula of a syringe into the aperture, and, closing the nose and mouth of the animal, I drew up the piston. I repeated this several times without any result, and in an instant afterwards the animal died.

On the dissection of this horse, the mucous membrane of the pyloric portion of the stomach was found to be stained of a yellow colour, and likewise exhibited traces of considerable inflammation, the effect probably of the mustard. The small intestines were sound, and so were the larger ones, except that at the caput coli some black sand, a pound in weight, had collected and formed a partial obstruction : some portions of the ingesta were accumulated there, of greater consistence than was natural. The heart was larger than usual, without sensible alteration either in its substance or cavities ; but the pericardic bag was distended with serous fluid, of a light red colour. The pluræ were comparatively unaffected. The substance of the lungs was slightly congested, and contained tubercles, for the most part of an indurated character. There was no considerable ulcer, or purulent reservoir, as I had expected ; nor was it easy to trace the source of the fetid purulent matter, a portion of which was still contained in the bronchi. It probably proceeded from some small tubercles

that had suppurated, and opened a passage into the minute bronchial divisions. There had evidently been former severe disease of the lungs.

The therapeutic means which I had adopted had certainly removed the symptoms of vertigo: but the affection that destroyed the animal was one that bid defiance to all medical skill, and death was the consequence of inanition, and hastened by the pericardic dropsy, and, perhaps, by some altered structure of the heart.

CASE IV.

One of the most beautiful horses of the detachment exhibited symptoms of staggers as he was eating his evening ration, September 15th, 1834.

The same means were adopted, with the exception of setons in the poll, and other counter-irritating applications.

Having been placed in the school, he performed a few circles, and every symptom seemed to vanish. He was led back to the infirmary about eight o'clock, proper attention was paid to his diet, and I formed the most favourable expectations with regard to him.

20th.—He appeared to be quite well, and rejoined the regiment; but on the 23d, and again at his evening feed, he exhibited symptoms of staggers. I found him lying against the wall; and on his body, and particularly on his head, were bruises caused by the violence of his struggles.

The same means were used with as prompt and complete success. The horse was sent to the dépôt at Pontivy, and is now in perfect health.

I shall wait for new cases to confirm or weaken the impression which these have made, and I will faithfully record them.

The following is the course which I have hitherto pursued:—1st, Copious and reiterated bleeding if the case appears to require it; but one bleeding at all events. 2d, Immediately afterwards the drink composed of diluted ether, then an ammoniacal injection up the nostrils, and the same used as an enema; afterwards injections of cold water only, with application of the same to the eyes, face, &c. 3d, These things being done, he was sent to the school, and fastened in the centre of it with a long rein, so that he could form a very considerable circle. 4th, If the violent symptoms continued, or a comatose state succeeded, setons or blisters were applied to the neck, and opiates administered with the flour of white mustard-seed. This medicine, recommended by M. Huvelier, appears to me to be a very useful one, but it is not always possible to administer it at the beginning of the

disease, when it would be most efficacious. It cannot, also, be administered in a liquid form, for the vehicle in which it is given would necessarily impair or destroy the action of it: its employment is consequently conditional.

Rec. de Med. Vet.

If we now translate the instructions of Professor Vatel on the three divisions into which these affections of the head naturally range themselves, our readers will be sufficiently in possession of the opinions of the French veterinarians on the subject of staggers.

INFLAMMATION OF THE BRAIN.

Inflammation of the brain is ordinarily accompanied by inflammation of the arachnoid membrane. It is difficult to distinguish these affections from each other, even when they exist separately, on account of the similarity between their symptoms and the symptoms of the collapse which follows: the first resemble those of cerebral apoplexy. Apoplexy appears to be generally characterized by sudden loss of power over the voluntary muscles, without spasmodic action; inflammation of the brain is known by spasmodic action, that may be followed by slow and progressive paralysis, the march of which is perhaps irregular and intermittent; and arachnitis by spasmodic action without loss of voluntary power.

Among the predisposing causes of inflammation of the brain may be reckoned the use of stimulating food and liquors: the occasional and more ordinary ones are, blows on the head, fracture of the cranium, the presence of foreign bodies in the cranial cavity (the hydatid in sheep), exposure to the sun, intense irritation of the stomach, and inflammation of the arachnoid membrane, of which this is often the consequence.

Simple cerebritis is seldom found, at least, without easily recognized physical causes. It is marked by continued or intermittent contraction of the muscles, somnolence, deafness, impairment of sight, slowness of pulse: to these succeed paralysis of the muscles, at first with contraction more or less violent, and with the preservation of sensibility: to these succeed flaccidity of the muscles, insensibility of the skin, palsy of the bladder, constipation, &c. &c.

It is a serious complaint, and rarely cured after being perfectly developed. If it does not occasion the death of the animal, it generally terminates in suppuration, softening (*ramollissement*), or induration.

In the treatment of this disease the first object is to get rid of

the causes which produced it, if they are known, as fractures, hydatids, &c. The second is to prevent the disorganization of the brain: for this purpose general and repeated bleedings are used; the dashing of cold water, in which common salt has been dissolved, on the head; the establishment of some point of derivation; some counter-irritant, as blisters on the inside of the thighs, or on the sides; or the use of the actual cautery: to these should be added, restricted diet, cooling drinks, and stimulating injections. If the disease continues long, and seems to be passing into a chronic state, purgatives should be employed in small doses and for a long continuance, and recourse may be had to setons in the neck and poll.

Elémens de Pathologie Vétérinaire, p. 40.

ACUTE INFLAMMATION OF THE ARACHNOID MEMBRANE.

Many causes may produce arachnitis or phrensy. The most usual, among the occasional ones, are blows on the cranium, exposure to the sun, acute or chronic inflammation of the brain, violent pain, stimulating food, the miasmata that produce typhus, inflammation of the mucous membrane of any of the digestive passages, or of any other mucous or serous membrane, and, finally, all the ordinary causes of inflammation.

The symptoms are, violent convulsive action of the limbs, and forcible contraction of them, without being followed by palsy. The last symptom is seen only when the inflammation is propagated to the brain, or when there is serous effusion on the brain.

The head is, at first, generally depressed; the horse rests it on his manger, or presses it against the wall. When he walks, the head is still carried low; it is struck against every object in the animal's way, until he finds something against which he may press it. He staggers as he walks, his eyes are open and protruding; but he cannot see. By and by he becomes almost immoveable in some place where he can partially support himself. All at once, however, violent convulsions succeed; he strikes his head forcibly against every thing that surrounds him, without appearing to feel the blows he is inflicting on himself. He paws with his fore-feet; he rears on his hind ones; he falls backward; he struggles violently, and he sometimes dies in this state of exacerbation.

Prompt and copious bleedings are indicated; revulsives at the temples, thighs, and neck; the dashing of cold water on the head, and the application of ice to the forehead and poll.

CHRONIC ARACHNITIS.

This succeeds to acute arachnitis, or is from the commencement of a milder character than that which has been described.

The symptoms are sometimes obscure, for the disease does not run on to an acute state ; or the signs of compression of the brain by the accumulation of serous fluid in the ventricles, such as coma, stupor, debility, paralysis, slow respiration, and plaintive cries, are not seen.

The treatment is essentially the same as that of acute arachnitis, but the practitioner must reckon more on the effect of revulsives, as setons in the neck, purgatives, and diuretics.

Elémens de Pathologie Vétérinaire, p. 249.

CEREBRAL APOPLEXY.

Cerebral hemorrhage is chiefly seen in the horse, the ox, the sheep, the hog, and, sometimes, the dog.

The causes are, all kinds of cephalic irritations—plethora, high feeding, sudden change from dry to green food, heat, exposure to the sun, heated stables, idleness, over-work, great muscular efforts, irritation or distention of the stomach, blows on the head, &c. &c.

Its attack is occasionally preceded by some precursory symptoms, such as temporary giddiness, hanging of the head ; disinclination to move ; irregular and staggering gait ; impairment of sight, hearing, or appetite ; frequent yawnings ; stupidity ; numbness of the limbs, and frequent sighing. In the greater number of cases apoplexy comes on without warning.

Slight apoplexy.—This is sometimes observed in the horse. It is characterized by sudden palsy of one limb, or of one side. The pulse is full and strong ; the vessels of the face are gorged with blood. A remission of the symptoms often soon takes place, if proper means are used.

Severe apoplexy.—The animal falls all at once, as if struck with lightning. Stupor, insensibility, difficulty in moving the hind limbs, and, sometimes, all four of them ; fixedness and blindness of the eyes ; immobility and dilatation of the pupils ; great discharge of saliva ; the apparent mucous membranes of a red, or deeper, or violet colour ; the tongue also of a violet hue ; the jugulars distended ; the nostrils dilated ; the respiration sometimes quick, at others slow and stertorous ; the pulse hard and full, sometimes slow, sometimes quick ; and, at last, immobility more or less complete, are the usual symptoms.

In sheep the attack of apoplexy is usually most rapid. The eye has an expression of distress, yet half unconsciousness ; the conjunctival and nasal membranes are of a vivid red ; the head is low and protruded ; the flanks heave ; the breathing is loud ; the animal moans ; and it falls and dies occasionally in the space of a few minutes.

The hog often dies suddenly without any precursory symptoms.

If apoplexy, however sudden and violent may be its attack, does not destroy the animal in a comparatively short space of time, the most alarming symptoms gradually disappear, but without the animal being cured. The disease passes into a chronic state, and terminates, at last, with the death of the patient, who dies with all the symptoms of inflammation of the brain.

On opening the animals that die of apoplexy, there is either simple turgescence of the vessels, which are gorged with blood, or, oftener, there is an effusion of blood either on the surface, or in the substance, or in the ventricles of the brain.

When this complaint attacks many animals at the same time, it is necessary to search diligently for the causes of it, and either to remove them or lessen their injurious effect; and the succour afforded to the animals should be prompt.

Elémens de Pathologie Vétérinaire, p. 44.

ANOMALIES — DOUBLE LEGS — DESCRIPTION OF CREEPING JENNY.

By Mr. CARTWRIGHT, V.S., Whitchurch.

IN THE VETERINARIAN for September last you inserted a case I sent you of “Double Legs” in a colt, and I there alluded to a similar one in a mare, called “Creeping Jenny,” which I had seen eight or nine years before, but had not particularly noticed her: since then the mare has been shewn again in this town, and I have sent you the following particulars of her, as I think it worthy of being recorded, although I believe she has been seen by most people in this country, and shewn for two or three years in London.

She is said to be fifteen years old, thorough-bred, got by Sorcerer or Williams’s ditto, dam by Skyscraper; but is thought to be got by the former, as her dam went the usual time with foal for his get, but was covered by the latter six weeks after, being supposed not to hold to the former. She has had three foals; one is seven and another three years old, and the other I know nothing about, except that all of them are perfect in conformation. She is a very handsome compact mare, and I am told has run nine races, winning the filly stakes at Newmarket, and £50 at York in 1822; and the £60 stakes and the City plate at Canterbury in 1823. She was bred by Mr. Checketts, of Belgrave Hall, near Leicester, who now travels about with her as a curiosity, and who takes occasion-

ally, by shewing her, as much as £20 a-day at some races. She was born, to all appearance, natural. The two hind extra legs made their appearance when she was about three years old, and the fore ones a year or two after. The two hinder ones have increased in size for the last few years, and project farther out sideways. She travelled the other day forty-seven miles with ease; and when she walks she seems to have the power of extending the hind extra legs, proving that she has extra extensors of the feet.

The off-hind leg.—The *thigh* appears to be double, as there is a division or cavity along the front of its whole length, and it is thicker than usual. The *hock* is certainly a fine large one, but seems as if it was spavined. At, and a little above the fetlock joint there grows out, on the inside, a separate part of leg (pastern and foot), but not quite so perfect as the other, and merely touches the ground in consequence of the hoof being allowed to grow down unnaturally. The *frog* is rather imperfect. If the hoof was properly pared down, it would not touch the ground, and does but barely do so at present. This is the largest of the two additional hind ones.

The near-hind leg.—The *thigh* and *hock* are natural. There grows from the inside of the fetlock, and just above it, an addition similar to that abovementioned, but not quite so large.

The off-fore leg.—There grows on the inside, in a similar situation to the others mentioned, a small, badly-formed imitation additional leg. The bone (the pastern) is about the thickness of a knife-handle, short, and loosely attached to the joint; the ligaments giving great play to the joint. The hoof, if it can be called so, is nothing more than a horny substance, the thickness also of a knife-handle, and three or four inches long. As a whole, it has no appearance whatever of a leg.

The near-fore leg.—At the inside of the fetlock joint there is a thickening of the skin, and a little horny substance, in two parts, growing from it; but not more than would cover a penny-piece, and is about half an inch thick.

When the owner was here, I shewed him the legs that I have, and asked him if he had ever seen or heard of any similar to his horse before, and he replied that he had not.

RUPTURE OF THE PERICARDIUM, WITH EXTENSIVE DISEASE OF THE LUNGS, PLEURA, &c. IN A HEIFER.—CHRONIC DISEASE OF THE HEART IN A COW.

By Mr. E. A. FRIEND, V.S., Walsall.

ON the 16th March, 1834, I was sent for by Mr. Wright, of Stonnall, near Lichfield, to examine a heifer that he had purchased about a fortnight previously. I found her much emaciated, the hide tight, and the coat staring; the eye sunken, with total loss of appetite, and the fæces of a dysenteric kind, together with a considerable affection of the thorax, but of such a nature that I could not ascertain its precise character.

He requested my opinion as to her soundness at the time he had purchased her, he having had her (with others bought at the same time) warranted sound. I told him at once that I had not the slightest doubt of her having been decidedly unsound long before the time of purchase, and advised him instantly to write to the party from whom he had her.

I grounded my opinion at that time partly on the general appearance of the animal; partly on the nature of the fæces, which, when discharged, were covered with small gaseous globules, strongly indicating chronic disease of the mucous membrane of the intestines; and partly from the affection of the chest, which, though of a mixed indefinite character, yet appeared to me to be chronic: but more particularly I was led to this consideration from the appearance of the hide and coat. There is a peculiar sympathy in the skin with chronic disease of the thoracic and abdominal viscera; and in this case the hide was tight to the feel, and the hair bore the same resemblance to the bloom of healthy hair, that old thatch would do to reed newly cut. I sent some medicines for her, with directions for their exhibition; and on the 28th instant I received a note from him stating that, during the time the heifer had been taking the medicines, she had been very much relieved, but that she had relapsed again. As soon as they were finished I then sent him some more, with further directions.

I saw Mr. Wright again on the 9th April, and he then told me that the cow was better in her body, and that her appetite had improved very much, but yet that he thought her otherwise no better.

I saw her again myself on the 14th, and there was an improved appearance in the coat, a brighter eye, a much better appetite, and the fæces such as would be voided by a cow living

on the same food, in a state of perfect health : but the affection of the thorax was decidedly much worse ; there was considerable œdematous swelling of the dewlap and the integuments under the jaw, and I immediately detected effusion into the cavity of the chest. I told Mr. Wright of this, and the immediate danger to life consequent upon it. The event justified the prediction ; I went again on the 16th, and found her dead.—The following were the appearances that presented themselves at the post-mortem examination : The first three stomachs were healthy, with a due portion of food in them ; the fourth stomach was slightly inflamed, with a quantity of dirt, and several small pieces of coal or cinders in it ; there was also a nail, a pin, and a small piece of wire, in the first stomach. The intestines had recovered their healthy aspect in a great measure, but there was a small quantity of serous fluid in the cavity of the abdomen. Upon opening into the thorax, about two gallons of purulent fluid escaped. The lungs were in a state of complete collapse, and not more than half their natural size, and were completely attached to the ribs by a diseased secretion from the pleura. The most extraordinary appearance, however, was exhibited by the pericardium : a portion of it was found closely adhering to the left side of the heart ; on the right side there was a rupture of it, forming a foramen of an inch and a half in diameter, and it appeared as if the edges of this opening on one side had receded upon the surrounding parts. Adhesive inflammation had taken place, and there was a complete duplicature of the pericardium, which was altogether thickened and indurated to such an extent, as to present the appearance of tanned leather.

Here, then, at any rate, I had firm ground for my original opinion of long-existing chronic disease. The pericardium did not exhibit that intense vascularity that one stage of acute inflammation would produce ; nor was there that tendency to decomposition that would be the effect of a still greater extension of the same kind of inflammatory action, but there was, instead, a firm indurated half-organized substance, of fifty or sixty times its original thickness. Now, in the first instance, when this comparatively delicate membrane (from the disease consequent upon its rupture) had lost its healthy secreting action, a diseased one would be set up in its stead, and a deposition upon the whole of its internal surface must have taken place. A partial organization of this must have followed ; and this deposition, covering the original secreting surface, must have itself become the secreting surface. A fresh deposition must then have taken place, and a fresh organization have followed, and so layer after layer were added, till it became the hardened indurated mass which

was exhibited on dissection ; this I considered, and I was confirmed in my opinion of its long duration.

I gave Mr. Wright a written detail of the case, and my opinion upon it, of which the following is a copy : “ that the primary disease in this case was of the pericardium ; and that so extraordinary was the extent of disorganization which had taken place, that it was matter of absolute certainty that it could not possibly have been effected, except under a disease of several months’ continuance : that the disease of the abdominal viscera (but which yielded to the power of medicine) was a consequence of this excessive derangement ; and that the immediate cause of death was from suffocation, produced by the enormous quantity of purulent fluid latterly secreted.”

I advised Mr. Wright to send a copy of this case, and opinion, together with the hide of the animal, after putting his brand-mark upon it, to a friend of his that lived in the neighbourhood of Mr. Thomas, the cattle dealer of whom he had bought the heifer, and to desire him to deliver the hide, and to allow Mr. Thomas’s veterinary surgeon (if he employed one), or if not, the family surgeon, to peruse the case, and I thought that he would not find much difficulty in getting the matter settled. He did so, and Mr. Thomas honourably paid him for the heifer, and expences ; but having had her in his possession only three or four days prior to selling her to Mr. Wright, he naturally turned to the party of whom he had purchased her for repayment likewise : this was refused, and the matter went into a course of law, and I received a subpoena to attend the Shrewsbury assizes, in March, to give my evidence. This in a few days was countermanded, and I have since learned that the defendant had agreed to pay all the debt and costs.

I send you this case for various reasons : in the first place, I consider that even a simple record of extraordinary cases that occur in veterinary practice (though they should be given without note or comment) is extremely valuable. For who, when he is standing by a suffering patient, that cannot inform him of the nature of the pain that is tormenting him, when every eye is turned upon his, and every one looks to him for the expected explanation or prognosis, when, perhaps, the symptoms are such as to set all ordinary calculation or explanation at defiance, and the whole of his previous practice furnishes him with no parallel case ; I say who, at such a time, would not be glad to cast back the eye of his mind over the many valuable records that he remembers to have read in the pages of THE VETERINARIAN for instance, if haply amongst them he may find something in the

practice or experience of others to help him out? And though he may not be able to save the patient, yet the very knowledge of this circumstance, coupled with the fact of his being aware of the chances of disorganization in certain parts of the animal frame, will give him a deserved consequence with his employers, and entitle him to such a share of their confidence as he might find it difficult otherwise to obtain.

In the second place, it is one which was likely to have occupied the attention of a court of justice; and, as I should in that case have been obliged to state my opinion publicly, I do it now without hesitation, for it may possibly serve some of the profession at a future time, who may be employed in a litigated case, connected with cattle practice, as something to refer to, by way of precedent; and I will not do your readers the injustice to suppose that they would be inclined to slight the end on such an occasion, because the means were humble.

In the next place, I do it for the purpose of introducing a medicine which I gave in this case, and which I never remember to have seen or heard recommended for the purposes for which I give it, but which I have found the most efficacious of any that the whole range of the materia medica has afforded me, for stimulating the digestive system generally, increasing the appetite, and restoring the very important function of suspended rumination. It is pulv. cantharidis, in doses of fifteen to twenty grains, combined with carbonate ammon. from ʒj to ʒij: these, with ginger and gentian (medicines commonly used for the purpose), will be found on trial so valuable, that I feel sure that I do not arrogate to myself more than those who have the opportunity of giving it a fair trial will willingly award me, when I say that I anticipate in some little degree the thanks of that part of the profession who are engaged in cattle practice for its public introduction.

In the last place, I do it to substantiate a fact in the pathology of cattle that I have frequently noticed, viz. that so powerful is the digestive system in them, and so capable, in a state of health, of supplying waste and repair, that disorganization, even in the most vital parts, may go on to an astonishing extent without affecting life, and even sometimes without interfering materially with the actual improvement in the condition of the animal. I have seen large abscesses in the liver of a *fat cow* killed by the butcher, and other affections of the same kind that could not co-exist in the horse with the necessity for that active exertion that is generally required of him. Further to illustrate this, I subjoin the following case of

EXTENSIVE CHRONIC DISEASE OF THE HEART.

About a year and a half ago I was sent for to a cow, belonging to Mrs. Swift, of Aldridge, about four miles from hence. I found her down, in exceedingly great pain, with a most alarmingly quick and strong pulse, a wild and haggard eye, and the head turned back on the side, indicating pain in the region of the abdomen. I bled her, and the blood flowed copiously : after I had abstracted as much as I judged proper, and the pressure was removed from the lower part of the vein, I had the greatest possible difficulty in stopping the bleeding, for it was forced out in jets, several feet distant from the animal, and she died in less than five minutes.

I am sorry that I had not the opportunity of minutely examining her, as I am persuaded that it was a case accompanied by indigestion, but the heart was saved for me. It was very large, and the whole of the outer walls presented the appearance of a honeycomb ; the holes were more than an inch deep ; such a case of chronic disease of that viscus as I have never seen any thing else at all to compare with : and yet this cow was in as good condition as you could possibly desire to see a store beast ; and, they informed me, had milked extremely well, and had shewn no symptoms of illness that they could perceive, until a short previously to my being sent for.

The little necessity for exertion that there is at times in these cases, adds materially to the power of the digestive organs, as antagonists to disease ; and it is truly astonishing how the purposes of life are carried on under such circumstances as these in consideration : and yet, let the digestive organs themselves be once sensibly diseased whilst such affections exist in other parts, and it is then equally astonishing with what a rapid flow the two conjointly hurry life to its last ebb. The impression on my mind at the time this case occurred was, that the functions of the heart, which had gradually been accommodating themselves to the alteration in its structure, had not been able to stand against the rapid derangement such a case of acute indigestion had produced, and that death was the consequence.

EXTIRPATION OF THE CONCH OF THE EAR OF THE HORSE.

By PROFESSOR DELAFOND, *Alfort*.

CARIES of the cartilage, forming the principal part of the external ear of domesticated animals, is often a very obstinate disease, requiring the most assiduous care, and, after all, yield-

ing only to partial amputation of the conch. This partial amputation is often practised on the dog: as a matter of convenience or necessity, and it sometimes takes place in the larger animals; but I do not know that a complete extirpation of the cartilage of the conch has been effected as a cure for long standing caries of that part.

In the course of the present year, two horses, that had long been affected with caries of the conch, were received into the hospital of our school. The disease had existed for a long time, and had resisted various applications, such as partial excision of the caries, and the actual and potential cautery repeated again and again. The conch was at length completely extirpated, and the wound readily healed.

These two facts appear to me to be deserving of attention, not only because they have the claim of novelty, but because they may induce veterinary practitioners to practise this new surgical operation.

The horse having been cast, and his head turned back, and kept in that position by two assistants, the operator charged a third to take hold of the extremity of the ear, and to move it as he might be directed. Then, with a crooked bistoury, he with one stroke made an incision through the skin which covered the outside of the conch.

He next separated the skin from the conch, taking care to avoid wounding the two branches of the parotid gland which embrace the base of the conch at its external face, anteriorly and posteriorly, and also the scutiform cartilage situated anteriorly and on the inner side. The excision of any of the lobules of the gland may occasion a salivary fistula; the wounding of the scutiform cartilage or the denudation of the cellular tissue, and the muscular substance that surrounds it, may lead to more widely spreading caries during the process of suppuration.

The parts which must inevitably be cut are the muscles that move the external ear, the vessels and the nerves that supply the ear, and the two nervous plexuses situated at the anterior and posterior parts.

The separation of the skin of the cartilage being made to its very base, the operator, with two or three strokes of the bistoury, carefully avoiding the parotid, cuts through the cervico-auricular muscles, the nerves, the vein, the artery, and the posterior-auricular plexuses. The artery will discharge a great deal of blood, and must be immediately tied. This first part of the operation is very painful to the animal, and the operator must proceed with firmness and dexterity in the midst of the struggles and violent movements of the head of the animal.

The conch being now drawn backwards by the assistant, he proceeds to the separation of the cartilage from the parts that are connected with it anteriorly and exteriorly. He divides the scuto-auricular and parotido-auricular muscles, the subcutaneous auricular plexuses, and the anterior-auricular nerve and artery : it will be necessary to tie this last vessel. He then isolates the anterior branch of the parotid, and arrives at the narrow and rounded part of the cartilage.

Then, bringing the ear down by the side of the larynx, he divides the parieto-auricular muscle, and, turning the convexity of the cartilage downwards, comes to the inferior part and the fibrous ligament which unites the conch to the annular cartilages. Now, taking the conch between his finger and thumb, he tries whether it is completely separated from the surrounding parts, which he ascertains by the flexibility of the fibrous ligament : he then cuts this ligament across, and the conch is extirpated. The incision across this ligament is essential, because it renders the wound a simple one, and prevents subsequent caries of the remaining portion of the conch, and of the annular cartilage which was involved with it.

The wound ought to be well washed with cold water, and then sponged clean : after which, having assured himself of the safety of the ligatures, the operator unites the threads, and places them in the external and inferior angle of the wound. Putting a pledget of tow, rolled round and hard at one extremity, over the auricular canal, in order to prevent the flowing of the blood into the interior of the ear, and bringing the other extremity of the pledget over the spot at which he had placed the ligatures, he proceeds to bring the lips of the wound together, uniting them by means of the suture *à surjet* (uninterrupted), commencing at the superior part, and leaving an opening below for the pledget, the ligatures, and the escape of the pus.

The horse being led into the stable, must be tied up to the rack, in order to prevent him from rubbing his ear.

On the third day pus generally begins to escape at the inferior opening, and at this period the ligatures, the suture, and the pledget, may be withdrawn—the last should be replaced by a smaller one, in order to absorb the pus. About the 15th day, the wound is generally healed : on the 8th day, the horse may go to work, or even sooner, if necessary, the wound being defended by a light bandage.

Recueil, Dec. 1834.

EXTIRPATION OF THE CONCH OF THE EAR OF THE HORSE.

By PROFESSOR RENAULT, *Alfort*.

A HORSE, belonging to a postmaster, had been wounded with a fork in the superior part of the ear. A tumour soon appeared, hot and painful, and which was followed, about the 12th day, by an abscess, that opened spontaneously. During more than a month, the horse continued at work, care being taken to keep the wound clean, which it was hoped would be sufficient to effect a cure.

At the end of that time I saw him. The whole of the ear was swelled, principally on the convex surface, and the ear began to turn inwards. Some bloody pus escaped from the small orifice of the abscess; and a fistulous sinus took a direction downwards, two inches at least below this orifice.

An incision was made at the termination of the sinus, in order to favour the escape of the pus. The wound was washed with tincture of aloes; and the horse was brought to the school twice in every day, that the wound might be dressed.

This treatment was pursued during three months, without success. Powdered aloes, charcoal, alum, chloride of lime, Egyptiacum ointment, excision of the carious spots many times repeated, cauterization with l'eau de Rabel (elixir of vitriol), nitrate of mercury, nitrate of silver, corrosive sublimate, and the actual cautery, were successively and uselessly employed. The external ear became completely deformed; it was thickened, hard; and so exceedingly sore was the part, that it was impossible to approach the head of the horse without his attempting to defend it. A great quantity of ichor, clear and fetid, continually ran from the inside of the ear, until the mucous membrane was inflamed. The animal evidently lost flesh. It was proposed to attempt the amputation of the conch, and, the consent of the owner being obtained, it was effected. The horse was out of work seven or eight days, and at the expiration of the 20th day the wound was healed.

CASE II.

An entire horse, eleven years old, had been bitten in the ear, three months before, by another horse. A painful swelling of the ear soon followed, to which emollients and anodynes were applied. An abscess presently opened, the wound would not heal, and fistula followed.

Oct. 29th.—The ear was attentively examined—the conch was swelled, hard, a little painful; its base was very large, and its

point was reversed. Two little wounds, covered by pale and soft granulations, existed on the internal face of the ear, and a serous and slightly fetid fluid escaped from them. A straight and inflexible probe was introduced into each of them, and penetrated to the very base of the conch.

There was no doubt as to the existence of caries. I advised the extirpation of the ear: the owner consented, and the operation was performed.

The two fistulæ having been laid open, were lined near their termination by a very thin false mucous membrane. They ended in a cavity formed by the complete destruction of the cartilage by caries. The diseased cartilage was soft and fetid. Some sanguino-purulent fluid was found in the cavity. The cartilage was destroyed to the very base; the skin was thin and ulcerated. This serious and extensive injury of the cartilage, and its situation, well explain the want of success that attended every attempt to heal the fistula, and completely justified the having recourse to the operation.

On the seventh day after the operation, the pledget and the sutures were withdrawn. A few drops of blood ran from the wound, mixed with bloody pus.

The wound was now dressed daily with chloride of lime. On the 8th the pus was laudable; on the 9th, the wound looked well; on the 14th, the wound was entirely healed, and the horse returned to his owner, and recommenced his usual labour.

Recueil, Dec. 1834.

ON REDWATER IN CATTLE.

By Mr. J. D. HARRISON, V.S., Lancaster.

THE season when redwater becomes prevalent, at least in this neighbourhood, drawing nigh, I have ventured to trespass upon the pages of THE VETERINARIAN, and, perhaps, a little upon the patience of its readers, whilst offering to their consideration some facts connected with that disease. They may operate as a stimulus to the minds of other practitioners in the prosecution of further and more accurate research about this matter; and whereby we may hope ultimately to arrive at the much-to-be desired object, of a perfect development of the true seat of this complaint. There are, and, I trust, always will be found, a few veterinary surgeons who do not confine their inquiries to the diseases of horses alone, but are anxious to extend the benefits of science, and may I not likewise add humanity,

to all domesticated animals. In the foremost rank of these, in point of public wealth and utility, stand horned cattle; than whom, when labouring under disease, no class of animals have been so grossly neglected, and their sufferings so much increased, as well from the cupidity and bigotted prejudices of their owners, and the ignorant, self-taught, and self-elected cow doctor.

In *THE VETERINARIAN* for May, 1833, I hazarded an opinion as to indigestion being the cause of redwater, and the digestive apparatus its probable seat. I did it then, as I now do, under the heartfelt wish of eliciting inquiry, but not controversy, in order to arrive at the truth; for, at that time, not having what I conceived to be any undeniably solid foundation, and from the absence of many facts which I now possess, I was deterred from persisting in the defence of that theory, determining, however, at some future period, to return to the subject.

That redwater was not primarily an affection of the kidneys, I had long suspected; and I had observed either the non-effect or the mischievous effect of the diuretics and astringents generally resorted to and used by cattle doctors. This observation gradually led me to look to other and more important organs for an elucidation of the matter; and the digestive organs, as partaking of a greater and peculiar complexity of character, presented themselves to my mind; and in connexion with them the disease, throughout its various stages, was narrowly watched: it soon became sufficiently evident, that to them alone the disease is entirely referrible.

Diarrhœa, I do not hesitate to say, is invariably the premonitory symptom. Neither before nor during its continuance is the urinary discharge altered; and the administration of a mild purgative during this stage will, in the generality of cases, prevent all unpleasant consequences. From this fact alone, if others were wanting, we might justly conclude that the digestive organs were disordered, and look upon the diarrhœa as one of Nature's resources and curative indications. It is, however, too frequently the case, that the diarrhœa is not seen, or if seen is disregarded, and this favourable opportunity is allowed to escape; and then constipation, so universally known and as universally feared, ensues: the urine becomes tinged, and, as the constipation becomes more confirmed, gradually acquires a darker hue—nay, I have even seen the milk itself partake in the discolouration, when the stimulus of medicine has failed in alleviating the obstinacy of the bowels.

On these grounds I infer, that from an undue and vitiated secretion of bile redwater is produced, and that purgation, at the outset, is consequent on this vitiated secretion. That the

bile becomes absorbed and taken into the circulation, is likewise evident from the obstinate, and in too many instances fatal, constipated state of the intestines, and the yellow tinge of the tunica conjunctiva; and still more strongly from the fact, that the very milk (when any is secreted) as well as the urine, are saturated with bile. This latter circumstance I have clearly and satisfactorily proved by analysis; an ounce of urine being found to contain rather more than one-fourth part of bile. It is likewise demonstrable, but in a less satisfactory manner, from the action of purgatives; for I have personally witnessed several cases, in which the water has become clear after the administration of physic, and two or three hours prior to the commencement of the purging; and this I have generally regarded as a favourable omen.

STRICTURE OF THE DUODENUM.

By Mr. JOHN TOMBS, V.S., Bengal Horse Artillery.

7 A.M. Jan. 15, 1833.—AN aged troop horse was taken suddenly ill on the parade ground. He was brought home immediately, and admitted into the infirmary with the following symptoms:—he lies down frequently and rolls on his back; perspires profusely, with the pulse quick and hard; and I had great difficulty in feeling it, as the animal threw himself about violently. The conjunctiva was very much reddened, and he appeared to be suffering the most excruciating pain. He was bled copiously: ol. terebinth. and enemata were administered, and the abdomen and extremities were stimulated with volatile liniment.

9 A.M.—The symptoms are not in the least degree mitigated. He was again bled largely; tinc. opii. et spts. nit. æther were exhibited, and the abdomen fomented. In a few minutes after the medicine was given he appeared sick, and made a successful attempt to vomit the contents of the stomach, which escaped through the mouth and nostrils. Soon after this he was drenched with some warm water, which also was instantaneously ejected from the stomach.

10 A.M.—No remission of the pain. Bloodletting repeated; a solution of aloes given, part of which was quickly expelled from the stomach, wholly through the mouth: fomentations and enemata continued.

2 P.M.—The legs and ears cold, the surface of the body covered with clammy sweat, and he rolls about in great agony. I could not succeed in extracting much more blood, it being

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excessively thick and black, an invariable sign of approaching dissolution: a bottle of ol. ricini was administered, which produced another ejection from the stomach. Warm water was occasionally horned down; the extremities were again stimulated; the abdomen was bathed continually, and enemas frequently injected. He rolled about, getting up again, and then crouching with all four legs together. He continued in this dreadful agonizing state, without the least cessation of pain, until 11 P.M., when he expired.

Appearances after Death.—The stomach was distended with grain, grass, and liquid; the villous coat slightly inflamed. In the duodenum, three inches posterior to the entrance of the ductus hepaticus, was a complete stricture. That portion of intestine anterior to the stricture was awfully distended, and in a gangrenous state. The bloodvessels of the mucous coat were ruptured, and two or three ounces of blood had escaped, which was mixed with the food. This accounts for the repeated expulsion of liquids from the stomach.

The posterior part of the jejunum was inflamed; the cæcum was œdematous, and filled with dry, hard fecal matter. The colon was inflamed; but the other abdominal viscera were healthy: the contents of the thorax and pelvis in a healthy state.

[We believe this to be the only case on record of stricture of this intestine.—EDIT.]

THE EXTIRPATION OF THE LYMPHATIC GLANDS IN FARCY.

By M. MAURICE, M.V., 1st Reg. of Artillery.

DURING the last twelve years I have usually had at least ten farcied horses at a time in my infirmary; and the mode of practice on them which I am now about to describe has usually been successful.

The seat of the disease is the lymphatic system, and the causes which render it enzootic in our regiments are bad food, unhealthy situations, particular kinds of work, and, sometimes, climate. Delay in the administration of medicines, circumstances which imperiously retard the performance of the operation, or negligence on the part of the proprietor, and, occasionally, of the veterinary surgeon, render the disease incurable,

by the absorption of farcy matter, which affects the internal ganglions, and thus spreads over the whole system.

The farcy which attacks cavalry horses ordinarily shews itself by tumours, cords, beads, and buttons, spread more or less over the whole surface of the body.

The curative method which I have employed, and which has almost invariably succeeded, is extirpation and cauterization of the glands ; but, in order that these operations should be successful, it is necessary to be assured that the lymphatic glands, to which the tumours, cords, &c. are directed, are in a sound state.

I have constantly remarked, that negligence in the extirpation of the lymphatic glands has interfered with the cure of farcy, and that when this operation has not been performed, the wounds have healed with difficulty, and the farcy has become incurable.

When farcy appears in the hind extremities, the lymphatic glands of the groin are constantly diseased, and their extirpation renders farcy very difficult to cure.

Farcy in the loins, the back, and the flanks, always renders the extirpation of the glands in the adipose substance of the flanks necessary.

As for the fore legs, the neck and shoulder, the collection of glands which are on the lateral and inferior surface of the trachea must be removed.

For the head and interior of the nose, the lymphatic glands of the neck must be extirpated.

The lymphatic glands situated in the direction of the farcy tumours and cords are always diseased, but may be extirpated without danger.

Extirpation is always practicable in farcy ; but it is necessary after that operation to cauterize the wound lightly, as well to destroy the small quantity of farcy matter that may remain, as to change the nature of the tissues, and to produce a wound of healthy character.

Farcy buttons often suppurate on the hind extremities, in consequence of the length of time that the disease has existed. In this case cauterization should be employed, taking care that it penetrates sufficiently deep to completely destroy the cyst in which the puriform matter was contained.

The wounds should be dressed with dry pledgets of tow as soon as the suppuration is established, or the tow may be dipped in tincture of aloes.

Sometimes it may be necessary to employ the cautery lightly a second time. At other times the wounds assume the cha-

racter of unhealthy ulceration ; it may then be necessary to have recourse to nitric acid, corrosive sublimate, chloride of antimony, or, best of all, the hot iron.

Wholesome and plentiful food is of the first consequence in the treatment of this disease ; the dressings should be well attended to ; the horse warmly clothed, and gentle exercise occasionally resorted to when the weather is dry.

In the first regiment of artillery, to which I belong, and the effective force of which consists of 1100 horses, there are at least 300 that have been cured by the methods that I have described.

I do not speak of the farcy which is always accompanied by acute glanders : that affection appears to be a disease of the blood, and has for its cause the absorption of animal poisons, or bad and innutritious food, too long continued.

This malady is always fatal, and the duty of the veterinary surgeon is confined to its prevention.

Journal, Jan. 1835.

A CASE OF ESOPHAGOTOMY IN A COW.

By Mr. W. C. VINE, V.S., Horsebridge.

ON the 21st of January last, I was called upon to attend an Alderney cow, the property of a gentleman in this parish, which was expected to calve every hour, having gone nearly a fortnight over her time. I found her with a portion of Swedish turnip lodged in the esophagus. I immediately applied the probang, and persevered with it until I found it impossible to relieve her in that way. I informed the owner that I dreaded the consequence of using farther violence, and obtained his leave to attempt the removal of it by making an incision into the gullet. I then cast her on the right side, and cut down upon the impacted body, about five inches in length, and extracted a large portion of turnip, which had not been chewed at all by the cow before she attempted to swallow it, it having been frozen very hard. I then washed the wound clean with warm water, and sewed it up, after which the cow was allowed to get on her feet : she then drank some warm gruel which was prepared for her, and we left her in a loose stall for the night, during which time she brought forth a live calf.

In the morning the cow continued to take mashes, and gruel to drink ; and we gave her cabbage leaves and scalded hay to eat from the hand, in order to prevent her taking a large quantity at a time, as she was very greedy.

On the 23d, her throat was very much swollen, and the cow was troubled to swallow. I released two stitches in the centre of the wound, kept the part fomented with warm water; after which the swelling subsided, and the cow fed without any difficulty.

In seven days a sloughing took place, after which the wound assumed a healthy appearance and gradually closed, and the animal is going on well at the present time.

VETERINARY SCIENCE BEFORE THE TIME OF BOURGELAT.

LET us open Aldovrandus, that incomparable naturalist; Conrad; Gesner, surnamed the Pliny of Germany; and that curious collection entitled "*Scriptores rei rusticæ veteres*." These compilers have extracted every thing that was to be found in the works of the Greeks and Latins. But what do they offer us but an assemblage of fragments of science scattered through a mass of worthless dross? What do they prove, but the strange extent to which men of the greatest genius will sometimes wander? Who would have believed that Aristotle would have affirmed that horses drink muddy water, in order the better to fill their veins? or that Xenophon would judge of the paces of the horse by the height of his hoofs, or his temperament and qualities by the length of his ears?

If we pass into Italy, what a mass of erudition does the work of Pascal Caracciolo present! True veterinary knowledge and practice are lost in an immense abyss of historical facts. He gives the history of Bucephalus, Pegasus, and Arion; he describes the armour of the ancients—the soldiers of Alexander—the attachment of Caligula to his horse, and of the horse of Nicomedes to him—the chariot of Pompey drawn by elephants—the eloquence of Cicero—the address and agility of the Numidians—the origin of the name of the Moon, and I know not what! It would take a volume to enumerate all that that book recounts.

History is not more favourable to the English veterinarians. Some of them denied the existence of the brain—others filled the sole with salt and bran in cases of apoplexy—some groomed the horse well with an iron comb, to remove constipation—others cauterized the flank for diseases of the spleen—and others prescribed effectual remedies for diseases of the horse's gall-bladder.

We pass in silence the German authors, distinguished only by their great prolixity; and we examine, but humiliating to our

national pride, the writers of our own country. One maintains that there are in the horse two sorts of blood—the vital blood, and the general mass of blood—and that the vital blood alone circulates while the animal sleeps;—another affirms that there goes from the head of the horse a white nerve, which takes its origin from the tip of the nose, goes along the upper part of the neck, follows the spine of the back and the fore limbs, and extends to the extremities of the feet!

Such was veterinary science before the establishment of the first modern school.

La Matière Médicale Raisonnée.

STRANGULATION OF THE ILEUM IN A STEER.

By Mr. FIRMAN FULLER, V.S., March, Cambridgeshire.

ON the 25th of January last, I was sent for to attend a four-year old Irish steer. The shepherd informed me that he found him in the morning cast under a gate in the yard; he had evidently been in that situation the greater part of the night, from the bruises which appeared about him. When I first saw him, his sufferings seemed to be very great. He would frequently strike his belly with his hind legs. When laid down, he was frequently shifting his position, and straining hard to void small quantities of feculent matter mixed with mucus. His pulse was quick; his muzzle dry; eyes sunk in their orbits; rumination suspended; and respiration hurried. I abstracted twelve pounds of blood; gave him mag. sulph. ℥j, sulphur ℥ss, pot. nitrat. ʒss, in some warm gruel; administered an enema of gruel, and ordered six quarts of gruel to be horned down at night.

26th.—Very little alteration in the symptoms, with the exception of being a little hoven: he has not eaten any thing, and has no feculent discharge. I gave him ol. lini. ℥ss, and repeated the drink and enema as yesterday. The shepherd informed me that the enema was returned shortly after I left him, without any fæces.

27th.—He has not eaten or drunk any thing; he is constantly down, and mourns incessantly, and has had no discharge from the bowels. I was now led to suspect that very obstinate obstruction existed in some part of the intestinal canal; and I informed my employer that there was little chance of success, and, unless the beast shortly changed for the better, it would be advisable to consign him to the butcher.

28th.—As he continually got worse, he was killed. On opening the abdomen, the seat of mischief was readily discovered. The small intestines presented a general inflammatory appearance, particularly the ileum; the lower portion of which was completely strangulated by a strong tendinous cord, which proceeded from the right side of the bladder to the mesentery of this intestine. The cord encircled itself round the lower portion of the ileum, and completely intercepted all passage; the strangulated portion was in a gangrenous state. The large intestines were entirely empty: they presented a pale appearance, and were very much contracted.

PRACTICAL OBSERVATIONS ON WOUNDS PENETRATING THE JOINTS.

By M. E. AUBOYER, M.V., 4th Reg. of Chasseurs.

CASE I.

AN entire horse, six years old, was in the month of May 1831 wounded on the anterior outer part of the left hock. The swelling was at first slight, but on the second day it was enormous. The owner, living four leagues from a town, was compelled to consult the farrier of the village, who, immediately advised that an opening should be made into the injured part, saying that the horse would infallibly die without it. The owner having considerable faith in the empiric, consented.

In order to open the tumour, the farrier heated a poker, and by means of it penetrated into the hock-joint. The animal suffered extreme pain—fell down, and was unable to rise again. Loss of appetite, prostration of strength, and a high degree of fever, followed an operation so cruel, and the swelling of the part returned, and increased. At length the dreadful state of the animal induced the owner to consult me.

I saw the horse two days after the operation, when the farrier was still continuing his means of cure, by rubbing in spirit of turpentine, royal water, &c. in order to destroy the *proud flesh*.

The pulse was hard and strong—the conjunctiva injected—the mouth hot—the breathing difficult, with engorgement of the whole left leg from the stifle to the foot. He could not put that foot for a moment to the ground; an examination of the part made him groan with pain: partial sweats appeared on the flanks, and about the roots of the ears.

My prognosis was very unfavourable, for I feared that the

animal could not be saved. The farrier having been dismissed, I bled to the extent of seven pounds, and caused emollient lotions to be applied over the whole of the limb. Aperient injections were ordered to be thrown up: a severe regimen was ordered, and I delayed a particular examination of the part until the following day.

May 28th.—I now carefully examined the hock. I introduced my probe into the wound which the farrier had made, and, on withdrawing it, a little synovia followed: this convinced me that the joint was opened. The owner then told me that he had seen a similar fluid escape after the operation of the farrier.

Convinced that I had to combat a deep injury of the joint, I enlarged the external wound, in order the better to apply my dressings. Then having ascertained the direction and depth of the wound, I introduced into it small pledgets moistened with tincture of aloes, and then placed others gradually increasing in size upon them. The whole was kept in place by a bandage. I ordered absolute rest—emollient anodyne lotions, composed of marshmallows and poppy-heads, over the neighbouring inflamed parts, but not to be brought into contact with the wound. Restricted diet, and frequent clysters.

29th.—The patient as depressed as yesterday, but a little diminution of pain in the joint. The febrile symptoms remaining, and the conjunctiva being even more inflamed, I abstracted six pounds more of blood. The dressings not being deranged, I did not disturb them. A little water whitened with barley meal, and a small quantity of wheat-straw, allowed.

31st.—I could not see my patient until this evening. The swelling was much diminished—the pain less intense—the spirits somewhat recovered—the pulse regular, but a little hard—the respiration freer, and the conjunctiva less inflamed. On removing the bandages I found that suppuration had commenced, and that the pus was of a good character. Same dressing as before—continuation of the emollient lotions—bleeding to four pounds—same regimen.

June 2d.—Little change—the same treatment, with the omission of the bleeding.

5th.—Much better—suppuration in less quantity, and healthy: the synovia still flows, and there is yet a little fever; but the local pains are abated, and the animal can rest a little on the injured limb. Treatment the same.

8th, 10th, 12th, 15th.—Going on well—the wound filling up.

20th.—The owner met me this morning. I feared that he had bad news to communicate, but he said that he came to tell me how satisfactorily every thing was proceeding. We found

her walking in the court, quite gay—seeking for something to eat, and betraying no alarm when she was approached and the injured limb handled; and, indeed, resting upon it as she walked. I removed the bandages, and cleaned the wound with diluted spirit: it looked healthy, and I dressed it with the same liquid.

30th.—The wound was cicatrized—and there remained only a slight seam, which yielded to friction with camphorated spirit.

CASE II.

A horse belonging to the 5th squadron struck his knee against a nail, tore the integument, and opened the joint, in the month of June in the same year. I saw him almost immediately after the accident. The carpal bones of the second and third row were exposed. The wound was cleansed and dressed with diluted alcohol. The horse was forcibly kept up during the first forty-eight hours, and did not change his position for eight days afterwards. The same treatment as in the former case was continued.

CASE III.

On the 9th of May 1832, a horse belonging the 1st squadron received a cut from a sabre on the outside of the right knee. The articulations between the first and second rows of the carpal bones were opened, but the lateral ligament was not touched. A portion of synovia immediately escaped, mingled with blood. Cold water was first applied in order to stanch the blood, and then the wound was dressed, as in the first case, with pledgets of lint dipped in diluted spirit. The animal was kept from lying down, and his diet was restricted.

10th.—The dressing was not deranged, and therefore I did not disturb it, but applied diluted spirit externally.

11th.—I removed the dressing, and saw, with much pleasure, that the synovial discharge had already ceased. The dressings were continued fifteen days, at the expiration of which time the horse returned to his duty.

After these results of a treatment exceedingly simple, can we avoid acknowledging that veterinarians have much exaggerated the dangers of these deep wounds of the articulations; and that it is much more easy than many of them think to obtain a complete cure, and in a very short space of time, by the employment of applications most easily procured?

I could add many other cases of a similar nature; but as, with one exception only in which I was compelled to have recourse to the cautery, the treatment and the success were the same, I will pass them over in silence.

[We have already said that we do not hold ourselves accountable for the accuracy either of the theory or practice of the cases that are recorded in our Journal. Nothing is here stated of the method by which the first, the indispensable step towards a cure—the closing of the opening—was accomplished; whether by engorgement of the surrounding tissue artificially produced, or by that clot of coagulated synovia which the practitioner so rejoices to see, and so carefully cherishes. We certainly enter our decided protest against the condemnation of those who regard wounds penetrating into the joints as cases of a serious character.—Y.]

FUNGOID DISEASE OF THE TESTICLE.

By a Student.

I HAVE just now a case that rather puzzles me. A valuable stallion was shewn to me some time since, having one of his testicles very much enlarged. The proprietor told me that the enlargement had appeared suddenly. I naturally supposed that it had been hurt or injured, and ordered warm fomentations, and the suspending of the testicle in a warm woollen-padded sling, and a dose of physic now and then. This plan of treatment has been pursued for three weeks, with no apparent benefit. About eight days ago, I learned that the testicle had been observed to be gradually increasing in size for some months past, which makes me now suspect that some specific disease exists in that gland: but I will give the present symptoms of the case.

The aspect of the scrotum is globular; rather flattened next the thigh: it appears bluish externally. I can feel distinctly the gland in every part enlarged; not very hard, but yielding to the finger, and not painful, unless roughly handled: the epididymis is distinct, and also enlarged proportionally, as is likewise the cord. I feel no irregularities upon the surface of the testicle, nor do I think there is any water of consequence in the tunica vaginalis.

What is this, or what will it be? Is it a *fungoid* disease, or scirrhus, or what? I shall be happy to have your opinion as to its nature and treatment, as I am not aware of its being noticed in works on farriery. Will it be of any advantage to cover a few mares? If it arises from congestion of semen, this may have some effect. Any thing will be tried that you may kindly suggest, and I will let you know the result.

[From the description given of this case, we are inclined to think it one of a fungoid nature, and that there will be found tumours on the tunica albuginea, and adhesions between it and the tunica vaginalis. It is a case in which we would recommend a trial of iodine as an ointment, applied to the surface, in the proportion of a drachm to an ounce of lard: it may also be of use to give some of the hydriodate of potass, internally, a drachm daily. The iodine, in the metallic state, is not of much use given internally; I have administered an ounce twice a-day, without apparent effect. Serving mares will rather do harm than good.—D.]

ON THE EMPLOYMENT OF SOOT IN MANGE.

By Dr. BLAND.

THE satisfactory results which have been obtained by the use of Créosote, in France, induced M. Bland, first physician to the hospital of Beaucaire, to substitute a preparation less difficult to prepare, and more economical. M. Bland thinks that he has discovered a succedaneum for this in soot, a decoction or an ointment of which he has found exceedingly serviceable in inveterate cases of chronic herpetic eruptions, scald head, scurfy eruptions, ulcers of an unhealthy character, &c.

For the decoction, two handfuls of soot are boiled during half an hour in a pound of water, and the expressed fluid used as a lotion three or four times every day. In cases of herpes or scald head, the scab should first be removed by means of a poultice. To ulcers, it is applied by means of lint, saturated with it, and it is injected into inveterate fistulæ.

The formula for the ointment is as simple. A quantity of the soot, added little by little, is rubbed down with lard, until the mass assumes a deep brown colour. The ointment is either employed alone, or alternated with the lotion.

Bulletin général de Therapeutique.

[There is need enough for some application that can be depended upon in many cutaneous affections of the horse, dog, cattle, and sheep. The soot is worth trying. The créosote has been used by some English physicians, and particularly by Dr. Elliotson, with considerable success, in cases of cutaneous eruption.—EDIT.]

A TUMOUR ROUND THE RECTUM OF A COW.

By Mr. E. BARKER, Stockesley.

March 26, 1834.—I WAS desired to see a cow, constipated, swelled, and near her time of calving. She had evidently slight fever, but I could not refer her illness to the affection of any particular part. I gave her two ounces of Cape aloes, ten ounces of Glauber's salts, and six ounces of sulphur.

27th.—Being no better, I bled her moderately—repeated the purgative, and prepared to administer an injection of salt and water with Reed's patent syringe, but, previously backraking her, I felt a very considerable substance connected with the rectum. I told the owner that the evil was there, and that I had not much hope.

28th.—The medicine had not operated; I therefore gave one pound of Glauber's salt, two ounces of ginger, and eight ounces of sulphur, and once more repeated the enema.

29th.—Still obstinately constipated: she now moaned much, her eye was sunk, and her pulse weak. It being about a week to her time of calving, I determined to take the calf away, that we might save one life at least; but I had waited too long, and the calf died a few hours after it was extracted.

30th.—The cow died. On examining her, I found that a large substance was grown round the rectum, two feet from the anus. Suppuration had commenced in it, and on cutting into it a yellow substance escaped. It weighed two stones, and the rectum ran through the middle of it. Every other part was healthy.

A CASE OF FRACTURE OF THE BONE OF THE LEFT FORE-ARM OF A DRAUGHT HORSE.

By M. DELAGUETTE.

AN entire draught horse, aged, received a kick from a mare which fractured the left humerus.

Being immediately sent for, I found the horse in the stable lying down on his left side, that is to say, on the injured limb. Having raised the horse and examined the limb, I found that the cubitus was fractured transversely from two-thirds of its length upwards, down to its carpiar articular extremity, and that one portion was separated from the other. The obliquity of the fracture was from without, inwards; so that the exterior

carpian extremity, was larger than the interior one. It was of one entire piece through the whole of its length, and we might have considered the external part of the bone as perfect, if it had not been for its size.

This species of fracture presented a fair chance of cure; and, the proprietor liking the horse, which he had lately bought, desired me to undertake the case.

It is well known that the slings which are ordinarily employed inconveniently compress the abdomen, and the result of this compression is difficulty of breathing, while in the male horse the discharge of urine is often difficult. In order to remedy these inconveniences, Verrier had contrived an apparatus to support the hinder part of the horse, and to which he had given the name of *breeches* (calottes). This apparatus, very complicated, bulky and heavy, although useful in the hospital of a school where a professor may superintend the application of it, cannot find a place in the luggage of a military veterinarian, on account of its price, and the little room that is allotted to him.

On different occasions that have presented themselves in the course of my practice, when I have been compelled to suspend a horse, I have endeavoured to supply the place of the apparatus of Verrier by contrivances that produce the same result, and the means of which are at hand every where.

I went to work in the following manner. I placed a sack, or a strong cloth doubled, under the chest, of a convenient length, and twenty inches wide; and a cord fixed to each extremity is fastened to the bars or horizontal rafters above. In order to support the hind part, I take two sacks used for oats; I put a little long straw into them; then I fold them length-ways in the form of rollers, and attach a cord to each extremity; I pass the sacks between the thighs, and I raise the extremities of each, the one towards the haunch, and the other towards the thigh: the cords are fixed to horizontal bars above, and I separate the cords, or make them approach each other, as I need. In some cases it is necessary, on account of the tallness of the horse, to give a little more height to the bars, or, on account of his size, to bring the cords closer to each other. It was by means of a machine of this kind that the horse whose case I am now describing was suspended.

As I have said, this kind of fracture is reduced with tolerable ease. The bones being retained in their place by an assistant, I applied large pledgets, covered with pitch plaister, around the limb, particularly where there were any hollows, in order to render the limb everywhere of nearly the same size. I then placed compresses, and made the first turn with a bandage

four fingers' breadth. I then fitted to the part four splents of light wood surrounded with tow, and these splents were retained by other bandages.

I had the pavement of the stable taken up, and a hollow dug under the fractured limb, and this depression was filled with straw, to afford a soft support for the foot.

The horse was bled, he was confined to white drinks, and several injections were given to him daily.

No bad consequence resulted from the fracture save a slight enlargement of the limb during the first few days, but which was presently dissipated by lotions of infusion of elder-flowers.

The only inconvenience which presented itself was a weakness of the loins, on account of which the horse was unable to support himself on his hind limbs, but was continually bearing on the slings. At the end of sixty days the skin was not in the slightest degree excoriated, which proved the advantage of my contrivance.

On the 25th day, the splents were deranged, and I unrolled the bandages: there was still some slight movement between the fractured pieces. I re-applied the rollers as at first.

The horse did well—his appetite was good, and his rations were increased. All the functions were properly discharged; but we continued to administer injections from time to time.

On the fortieth day he began to rest on the fractured leg.

The weakness of the loins, however, continued, and gave me some disquiet as to the future usefulness of the horse. I suspected that it was some sad affection of the part, and I endeavoured to remedy it by emollient cataplasms, and then by tonic frictions.

On the sixtieth day, the bandages were taken from the limb: the fracture had been well consolidated, and the horse rested his weight upon it. As he was led out of this stable to another, we observed that he was a little lame. Having arrived at his new residence, he lay down; and during three weeks that he was kept there, he was almost continually lying down, although he had the range of the whole stable.

After all, the proprietor having discovered that the horse would not have been sold had it not been for this affection of the loins, determined to have him destroyed. He walked to the knacker's without the slightest lameness.

Journal, Dec. 1834.

LACERATION OF THE LEFT JUGULAR VEIN.

By Mr. GEORGE HAWTHORN, V.S., Kettering.

A BROWN cart mare, the property of Mr. J. Owens, of Finedon, was accidentally wounded across the anterior and inferior part of the chest, at the bottom of the neck. The wound was dressed by the owner, and appeared to be going on well, and the mare was thought able to work a fortnight after the accident had happened, when it appeared that the jugular vein was lacerated, for by the pressure of the collar upon the neck, violent hemorrhage was produced. She was immediately taken home; and from this time the hemorrhage was of frequent occurrence when feeding time came, and for several successive days had followed the eating of the smallest quantity of hay. She was, therefore, supported on mashes and split beans.

October 11th, 1834, I saw the mare for the first time, and found her in a very debilitated state. In consequence of the hemorrhage having been so frequent and profuse when eating, she had had no food given to her for two whole days: she had likewise been standing in a place exposed to currents of air all the time, which had brought on violent catarrh, accompanied by a weak, hoarse cough. She appeared not to like mashes, therefore a small quantity of hay was now given her by the owner; but the first mouthful that passed the esophagus, pressing upon the lacerated wound immediately caused bleeding to the amount of two quarts. Of course, no more hay was given, and she was compelled again to eat mashes, which she appeared to do with great reluctance. Had she been allowed hay, no doubt she would have continued eating till she had dropped down dead from loss of blood, for she had already been reduced to so weak a state by the great loss of blood, that she could hardly walk.

The wound had been stopped with tow, and covered with puff-ball to stanch the bleeding.

Being desirous of examining the wound, I first cleansed it out, and found it to extend across the chest, from the off to the near side, where it was deep and lacerated. As I had not yet seen her eat hay myself, I wished a little to be given her, to see what effect it would produce, which with much hesitation was consented to by the owner. The moment she had swallowed the first mouthful, the blood flowed more copiously from the wound than ever, and faster than from common venesection. I filled the cavity with tow, previously dressing the wound with unguent.

tereb. and sewed up the integument, and applied the puff-ball externally, but the blood continued flowing for a short time. I stopped the return of blood through the near side jugular vein with my finger, and the hemorrhage immediately ceased; but when the finger was withdrawn, the blood again flowed through the opening. When the current of blood on the off side was stopped, no effect whatever was produced.

I told the owner that the mare was in a very dangerous state, and that in all probability the case would terminate fatally; and that there was only one chance left of saving her life, namely, by taking up the jugular vein.

He immediately consented, and the operation was performed as follows:—The mare was thrown. The part of the vein I intended to tie was the usual place of bleeding, as I considered it useless to search for the vein at the chest; in fact, from the very unhealthy and lacerated state of the wound, it would have been impossible to have found it. I made an incision an inch and a half long through the skin, and cut through the few muscular fibres of the panniculus carnosus and levator humeri muscles, and exposed the vein, which I detached from the surrounding parts. I then passed a blunt probe under the vein, and raised it. The probe was held by an assistant until I had passed two ligatures with a curved needle under the vein, and made it quite secure. I then brought the lips of the external wound together by sutures.

After the mare got up I gave her some hay, which she ate, for the first time for a fortnight, without its producing hemorrhage. I then again cleansed out the wound in the chest, and applied the unguent. tereb., and watched her minutely until she had eaten a sieve full of hay chaff.

I ordered her head to be tied up, to prevent congestion of blood in the brain. This precaution was proved to be necessary, for the head, on the left side, began to swell exceedingly, and in the space of two or three hours the bifurcation of the jugular vein on the near side, and the submaxillary and facial veins, became distended almost to bursting; and all the veins on the near side felt as hard and unyielding as they possibly could feel. I quite expected the ligature would give way from the immense pressure of blood.

I ordered her head to be well fomented with warm water several times in the day. This had the effect of reducing the swelling, for in the space of a few hours it became greatly diminished. I considered it necessary to give her mild tonic and diuretic medicine for several successive days.

Oct. 12th.—The mare appeared more lively, and had eaten as well as when in health. No more blood escaped from the

wound in the chest after the operation was performed. The pulse was 45, and strong. The enlargement of the veins had nearly disappeared, and the wound in the chest, which before the operation was in a very unhealthy state, and the smell very offensive, was discharging pus of a healthy character. The wound was dressed twice a day with the unguent. tereb.

14th.—The mare continued getting better in health, and appeared to be gaining strength rapidly, and she walked in a much firmer and stronger manner.

16th.—The neck and chest going on well. I ordered her to be loose for a few hours, and to be able to lie down if disposed; watching her all the time, that she might not rub her neck against any thing.

19th.—The wound in the chest healing rapidly; the neck a little swelled and hot. I cut two or three of the sutures of the external wound, and let out a great deal of healthy pus, and afterwards dressed the opening with tinct. of myrrh.

24th.—The ligatures round the vein, and the sutures of the external wound, had all sloughed away, and the wound was quite healed; likewise the wound in the chest: and on the 31st of October I visited the mare for the last time, and ordered her to be put to work with the other horses.

May 4th, 1835.—I saw the mare to-day, and was told by the owner that she had been at work regularly, and to all appearance without producing the least inconvenience, it being now six months since the operation was performed.

THE VETERINARIAN, JUNE 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE EARLY HISTORY OF VETERINARY MEDICINE.

Extracted from "The History of Medicine," by M. J. F. C. HECKER, Professor at the University of Berlin.

Two other veterinarians, Hippocrates and Hermerius, were contemporaries of Apsyrtus. In the collection of Constantine Porphyrogenitus, already referred to, are many extracts from the former of these writers. They are, for the most part, of inferior merit, and often contain nothing more than worthless

prescriptions, or superficial descriptions of disease. Both of them voluntarily acknowledge the merit of Apsyrtus, and derive most of their information from their epistolary correspondence with him.

Of all these veterinarians, Hiéroclès, after Apsyrtus, wrote the most, and seems to have been the only man of good education. He lived, probably, about the end of the fourth century, or, at the latest, about the beginning of the fifth. He profited much by the works of Apsyrtus, and often quotes them word for word. He was by profession an advocate, but he pursued the veterinary art with especial zeal. His descriptions are clear. His prescriptions, calculated to effect their desired purpose, are from Apsyrtus. Apsyrtus and Hiéroclès give some directions with regard to grooming the horse which furnish us with instructive information concerning this branch of rural economy among the Greeks. The same notions, as to the points of the horse most connected with usefulness and beauty, were held now as were maintained by Xenophon nearly seven hundred years before.

As to the other veterinarians of whom the unknown author of Constantine's collection has preserved some fragments, we cannot determine the age in which they lived, and we know little more than their names. He who has least merit among them is Pelagonius, an empiric, probably of the fourth century. He recommends the strangest modes of treating some diseases, worthy only of the superstition of the lowest classes. He prescribes a decoction of swallows' nests for ophthalmia. He boasts of the efficacy of the ashes of young swans burned alive, given interiorly, mixed with wine, for pestilential fever in horses: in a word, we may call him the Marcellus—the empiric of veterinary medicine.

Theomnertus, who could not have lived later than the fourth century, professed to cure rabies in dogs by depriving them of food for a day, and then giving them hellebore. He relates very seriously that, when deer are tormented with worms that crawl into the gullet, they swallow serpents who eat up the worms. For worms in horses, he recommends, as the most

effectual method, to extract them from the fundament with the fingers.

Many of the writers whose names occur in this collection, practised other arts connected with veterinary medicine. At that time veterinary medicine was not separated from the study and pursuit of rural economy generally. Cato, a superstitious person, and a careless observer, wrote much which had relation to agriculture alone. In all the diseases of cattle, without distinction, he recommends that a raw egg should be given to the animal, and he adds, that the servant who gives that egg should be a young man. He was a great partisan of magical formulæ, and he had no faith in any but popular remedies. He recommended, as a practice known from the earliest times, the injection of medicines up the nostrils of animals.

Praxamus, a Greek author, who probably lived before Columella, in the century before Christ, and who seems to have principally followed the works of Mago and Hamilcar, Carthaginian writers, regards an exact knowledge of the diseases of animals as impossible. He distinguishes, however, several diseases in cattle, as apoplexy, diarrhœa, indigestion, and colic. He manifests in general considerable talent, proving that the spirit of observation which distinguished the Greeks might have been attended by important results, if other circumstances had been favourable.

The loss of the work of Celsus on rural economy is much to be regretted. It doubtless contained a treatise on the diseases of domestic animals; and we cannot help believing that this man, so well-informed, and more exempt from prejudice than any other Roman, would have shewn the same judgment which he has exhibited in his work on medicine, and would have united in one regular work all the fragments which are scattered through so many tracts.

We are, in some part, recompensed for the loss of the veterinary medicine of Celsus, by the possession of the work of Columella, his contemporary, on rural economy generally. He profited much by the writings of Celsus, and has treated on veterinary medicine in the profound and complete manner which

we should expect from the experience and intelligence of a writer of the Augustan age. That part of his work which treats of the diseases of the horse is very satisfactorily minute; and his description of the maladies of cattle is certainly the best that antiquity has left us. In the contagious affections of cattle he orders the perfect separation of every affected beast from the rest of the herd; and he points out measures for preserving the others from infection, yet without describing with sufficient exactness the diseases to which he refers. He appears to regard the specific prescriptions as superfluous, because they were generally known to those who were engaged in agricultural pursuits. This blameable custom of the ancient writers of describing so superficially the objects which presented themselves to daily observation, under the pretext that no person could be ignorant of them, is the reason that we possess such obscure and unsatisfactory knowledge of many very important things. Thus, by way of example, it is very difficult now to determine what was the principal food on which either the larger or smaller cattle were kept in early times.

Human medicine, although it was treated on in a more scientific way, has many similar and lamentable chasms. The details which Celsus gives of malignant contagious fevers among men are as incomplete as those which Columella has left of the same diseases among domestic animals.

Among the diseases of the larger cattle, Columella has described indigestion (*cruditas*)—dysentery (*tormena*)—colic (*ventris et intestinorum dolor*)—fever, which he combats with bleeding and restricted diet—cough, of which he distinguishes several distinct varieties—abscess, which he recommends to open with the red-hot iron—many cutaneous diseases under the common name of *scabies*—pulmonary phthisis (*exulceratio pulmonum*)—ophthalmia which terminates in blindness, and for which he recommends sal ammoniac, a drug much used by the old veterinarians in diseases of the eyes. Columella speaks also of the bites of venomous animals, and of leeches which are occasionally swallowed by cattle when they are drinking. Anatolius, a more modern writer, recommends a singular vomit in

order to get rid of the last, viz. to hold crushed bags under the nose of the animals. Columella believes that bad digestion is the cause of the formation of worms in the calf. He also describes a machine by means of which cattle may be confined, so that remedies may be administered to them, and which very satisfactorily proves the care which agriculturists and veterinary surgeons had at that time bestowed on cattle.

After these productions and labours in the time of Augustus, it would have been expected that veterinary medicine would have attained to a high degree of perfection among the Romans; but the state of decline which commenced in the second century was fatal to this as well as to every other science. A writer, named Gargilius Martial, who lived in the third century, has left us a fragment on the maladies of cattle, that proves that veterinary medicine had not progressed after the time of Columella, but had rather, to a considerable degree, retrograded. This little work bears the impression of the lack of science, which was the character of that age, and does not deserve farther consideration.

The Greeks bestowed the knowledge of veterinary medicine on the Romans, in the same manner that they had imparted to them every other science. The Romans have merely treated on it in the manner which their masters had described it, but had scarcely added any thing. In the four centuries that followed the time of Columella, the veterinary art fell into great decay among the Greeks, and there was not an author worthy of record among the Romans. We may, therefore, be surprised at the appearance of Publius Vegetius, about the end of the fourth century. His work is exceedingly valuable. We must not, however, confound this Vegetius, of whose life we have no history, with another writer of the same name, who has left a treatise on the military art. Whatever was the station of life which the author of whom we are now about to speak occupied, we cannot deny that he had much experience in, and knowledge of, the diseases of the horse. He shews that he has profited by a diligent reading of his predecessors, the Greek veterinarians; and the style of his work, written in Latin, is not

excelled by any one in the fourth century. He advocates, sometimes, the principles of the Methodists*, which proves, as also the experience of other times has shewn, that veterinarians are always in the rear in the progress of medicine, and adopt those theories alone which had grown old, and were abandoned by others†.

Vegetius has profited much by the letters of Apsyrtus, without servilely copying them. He finds fault with them on account of their incorrect style, and he attributes the same defect to some other writers; and at the same time, he successfully labours to give the stamp of originality to his own work.

His speaking so often of the Huns and their horses, proves that he lived after the irruption of these barbarians into the centre of Europe. The Huns passed the Volga in 314; our author could not be later than the commencement of the fifth century, and, at that period, the Latins were well acquainted with the Greek language.

He considers disease according to the situation of the different parts of the frame, and his descriptions differ little from those which the Greek veterinarians have left us: and, beside this, we should not form a very high idea of his knowledge after reading the very incomplete anatomy of the horse, which he has affixed to his book.

He adds to the precautions which should be taken against contagious diseases, by ordering that the horses that die of them should be deeply buried. His opinion of the origin of these diseases is just. He attributes them to some malignant principle in the atmosphere; and, in order to cure or check their progress among other horses, he recommends that the air of the stables should be purified by certain fumigations. He combats the old opinion, which attributes founder in the horse to the eating an undue quantity of barley. In some parts of his work

* A sect of physicians who attribute every disease to contraction or relaxation of the solids, and founded their indications of cure on these distinctions: thus Vegetius ranks tetanus, and gout, and phthisis, as diseases of contraction.—[ED.]

† How true is this observation!

we find some valuable matter, which the Greek veterinarians had omitted. His remarks on the vermin which infect the skin, and on vesicular calculi, are instances of this. Under the old name of *malleus* (from the animal's being immediately knocked down, as it were, by a hammer), Vegetius describes more diseases than the Greeks had ranged under the title of *malis*, which renders it exceedingly difficult for the reader to understand what particular affections are meant. That part of his work in which he treats of the disorders of the eyes, is more valuable than any that the Greeks have given us on this subject; and his treatise on the maladies of cattle is more complete than that of Columella, and may be considered as a summary of all the knowledge which the Greeks possessed on this branch of the veterinary art.

The Greek and Roman veterinarians have not passed over in silence the diseases of sheep, goats, pigs, and dogs, yet they have not bestowed much care on them. It appears that it was not until modern times that poultry began to be domesticated to any considerable extent. Among the directions for the treatment of sheep, there are some important ones with regard to parturition. In false presentations of the fetus, it is recommended to cut it in pieces, in order to save the life of the mother. Many passages prove that the scab, and other cutaneous affections, described indeed very slovenly, committed sad ravages among the flocks of sheep. In dropsy in the goat, Columella recommends to make an incision in a favourable place, in order to evacuate the water. Few details are given of any of the diseases of pigs. The most common of them at that time was inflammation of the glands of the neck. Didymus describes this very correctly: he also makes mention of cutaneous affections in camels, the maladies of which animals had doubtless, at that time, very much engaged the attention of veterinarians.

Beside the art of breeding and breaking-in dogs, they possessed a knowledge of every thing essential to rural economy and the chace; but it was not until much later times that they seem to have had any conception of the nature and treatment of the diseases of these animals. Columella, satisfactorily

treats of nothing but mange and canker in the ear; the other diseases of dogs are either passed over in silence, or described very incompletely. Rabies itself, of the communication of which man was in continual danger, was known in a very superficial manner; and human physicians merit much reproach, in not having, at that period, bestowed sufficient attention on this malady, which was observed in populous cities, as well as in deserts, and which was, even then, of ancient origin. We read with astonishment, that the veterinary surgeons regarded rabies as curable, and that this opinion prevailed so late as the thirteenth century. A writer of inferior merit, who lived at that period, and who is unworthy of the name of Demetrius Pepagomenus, which some have wrongly bestowed on him, confidently recommends a drink composed of a decoction of the root of the wild rose, as a cure for rabies in the dog. The same author proposes to prevent madness by the excision of a vermiform substance found beneath the tongue, and which is, even at the present day, the popular belief. It is needless to detain the reader longer with similar opinions of this anonymous author, nor with his prescriptions against bewitchment of the dog.

We regard, as much more worthy of our attention, the details which veterinary writers of the thirteenth century have given us of the treatment of the diseases of falcons, the use of which for sporting purposes began to be introduced into Europe at the return of the Crusaders. Demetrius of Constantinople, probably the same with the true Demetrius Pepagomenus, a distinguished physician attached to the court of the Emperor Paleologus, has written a work on this subject which may be regarded as a model for veterinary authors, at least considering the age in which he lived. He describes with much exactness many catarrhal affections of falcons, a kind of disease which evidently prevails among birds, on account of the great development of their respiratory organs, and which assume even more severe and fatal characters than in the human being. He enumerates the causes of these diseases with great care, and prescribes, in a very pleasing style, an excellent mode of treating them.

We also find in this work some instructive remarks on inflam-

mation of the nasal passages in these birds, and apthæ in the mouth, and the connexion of this with inflammation and supuration of the liver, a viscus which is often much diseased in all birds. He gives some interesting details of inflammation of the eyes in falcons, and particularly of ophthalmia, and mucous discharge from the eyelids, for which he recommends cauterization of the edges. He likewise treats of opacities of the cornea, and worms that are found in the tissue of the eyelids, very much resembling the *filaria abbreviata*, and which have been found in modern times in the *falco navius*, and in some other birds of the same species. Among the nervous diseases, he mentions epileptic fits. He speaks also of indigestion and of intestinal worms—of emphysema, which he proposes to combat by pricking the skin with a needle—of inflammation of the claws, a disease very common among domesticated birds—and of many other maladies of these animals, which merit the attention of observers. Superstition is banished altogether from this work, which interests the naturalist as well as the sportsman; for Demetrius accurately describes every kind of falcon used at that time. The remedies are simple, and appropriate to the organization of the animals to which they are administered. The bleeding from the thigh, although covered with feathers, is not omitted.

A few fragments of the works of the old veterinarians on the diseases of poultry are preserved. Praxamus has prescribed certain remedies against many of the diseases of pullets, and, among others, against ophthalmia, which he combats with sal-ammoniac; and diarrhœa, and worms, and catarrh. Columella has mentioned inflammation and suppuration of the feet of these animals, under the name of *podagra*. It may be readily believed, seeing the want of knowledge of natural history and its kindred sciences among the Greeks, that Demetrius is superior to them all; and even in a subject of minor importance like this, he stands far above any of his own age, who offer nothing but a state of lamentable decline in every branch of human science.

WE were not correctly informed as to the nature of the society lately instituted at the Royal Veterinary College, and to which we alluded in our last number.

It has now assumed a name, which not unaptly expresses the valuable purpose which its projector had in view, "The Mutual Instruction Society." It consists solely of pupils, no visitors, and not even the teachers being allowed to be present. A committee of twelve has been appointed, out of which one has been selected as secretary, and each of the others acts in rotation as chairman. His duty is to select some point or points of Anatomy, Physiology, Chemistry, or Materia Medica, and to make himself as thoroughly as he can master of the subject. He then draws up a series of questions on that subject, or, having studied hard to conquer it, he trusts to the suggestion of the moment, and he examines his companions on it, and, perhaps, on other subjects intimately connected with it. If he does not obtain a satisfactory answer, he is called on to give one himself; and should not his explanation be quite clear and conclusive, reference is made to works of acknowledged authority on that subject, or perhaps to one of the instructors, within whose peculiar province that matter may lie.

These meetings are held for the space of an hour, three times in a week.

We heartily wish success to a society which promises so much good as this does; and much will it redound to the credit of the pupils of the College, if, from the construction—the almost necessary construction of such a meeting—left to their own guidance and management, a spirit of emulation, untainted by jealousy or ill-will, is excited in the well-disposed—the foundation is laid for more attentive observation, and for the acquisition of those first principles on which alone scientific and successful practice can be built; and no rude and ungovernable spirit mars the pleasure, and lessens or destroys the harmony of so praiseworthy an association. If they will sedulously cultivate, in these meetings, self and mutual respect—if they will avoid those questions on which grey-beards are not united—if they will confine themselves to the grand fundamental principles of their

profession, and its accessory arts, many a pleasing recollection will hereafter be associated with the memory of the hours thus spent; and the benefit resulting from them will be felt and acknowledged through the whole course of their professional career.

If this society should maintain its ground, we shall regard it, on many accounts, as the *auspicium melioris ævi*, and for this reason among others, that perhaps the other meetings may be so modified as gradually to attract to them the practitioners of the metropolis, and give us, what it is highly disgraceful that we have not, a useful and harmonious association of those who are engaged in the pursuit of the same art.

Y.

Miscellanea.

REPORT ADDRESSED TO THE PREFECT OF POLICE, BY M. HUZARD, JUN., RESPECTING THE PULMONARY PHTHISIS OF COWS IN PARIS AND ITS ENVIRONS.

Mr. Prefect,—I HAVE the honour to send to you certain observations which you require respecting the diseases now prevalent among the milch cows of Paris and its vicinity. These diseases have almost driven the cow-keepers of this department to despair; and until the present moment they have failed to excite the attention of government. You will pardon some details, which appear to be necessary, in order that these maladies may be better understood, and also the causes which render them of so frequent occurrence in Paris.

Of all the species of domestic animals, cattle are the most subject to affections of the chest.

The principal cause of this is the treatment to which we subject these animals, in order to procure a continual secretion of milk. Medical physiologists well know how much the secretion of milk, developed by child-bearing affect the pulmonary organs; they know what relations are immediately established between the lungs and the mammæ, and what precautions women who give suck are obliged to take at that time. Veterinarians, on their part, have observed the same relation in cattle; and all who have been accustomed to these animals well know that a primitive

affection which deranges the habitual secretion of the milk is often followed by an affection of the chest, that has not the least relation to the former: and if it is also considered, that the greatest part of our cattle have, through a long succession of generations, being submitted to this regime, we shall not wonder that the organs of respiration in these animals should be exceedingly subject to disease.

Experience has proved, that animals descended from parents in whom a certain system of organs has been enfeebled, are more than others disposed to an affection of those organs; and that this predisposition is greater in proportion to the number of generations through which it may be traced.

The structure of the pulmonary organs is also, I believe, a general cause of these affections. In fact, if only the individuals, or the races submitted to the regime necessary for a constant secretion of milk were affected by maladies of the chest, we might believe that that regime was the only cause of the evil, and that they were only accidental local causes which developed these diseases in a greater or less number of other individuals: but this is not the case, and we see epizootic and enzootic maladies of the chest develop themselves among the half-savage races of Russia, Poland, and Hungary, which yield milk only for the short space of time during which they nourish their young. Among these animals, always in the open air, there is some other cause for these complaints, and which I can find only in the peculiar structure of the lungs.

Such are the two prevailing general causes which dispose the French cattle to diseases of the chest.

It remains next to shew why the cattle in Paris are more exposed to these maladies than others.

The bad system of management to which cattle are submitted in the country is well known. They pass suddenly from the warm, humid, and almost suffocating air of the cow-house to all the continual variations of the air without, sometimes hot and sometimes cold, now dry and presently moist, and by and by they return to the deleterious atmosphere of the stable. If these causes, well known *determining causes*, (to use a medical term) of pulmonary affections, had not influence on the losses which are experienced in Paris, I would not speak of them; but as we shall presently find another reason for the frequency of these maladies among us, I am compelled to call your attention to them.

In fact, if these causes of acute and violent inflammations of the chest always developed themselves, it would follow that the cows would either die, or would with much difficulty be saved;

and then there would be no longer any well-founded hope of their becoming good milkers, and the farmer would have nothing more to do, as soon as they got tolerably well, than to fatten them for the butcher; and these inwardly and incurably diseased cows would never find their way to Paris.

But it is not so: there is quite another order of things. The pulmonary organs do not become diseased in so serious a way all at once. The inflammation is slight at first: the animals are scarcely ill at all: soon all the symptoms of the disease disappear, and every fear is dissipated; but a change of management or diet, a change of atmosphere, or almost any other cause, reproduces the affection. These changes happen frequently in a greater or less length of time, and, at length, the malady becomes habitual,—it becomes chronic. The cow, in the mean time, continues to yield milk—it is only by close attention that it can be perceived that the secretion varies, and that it diminishes every time the chest is thus affected; but a slight, constant cough will infallibly betray the secret of the case to any one in the slightest degree acquainted with cattle.

When the malady has arrived at a certain stage, a part of the lung becomes diseased, congested, of firmer consistence than in its natural state—it is hepatized. At length, tubercles begin to develop themselves; the pleura participates, more or less, in the inflammation; and in this state the cow is affected with that disease which we call pulmonary consumption, or phthisis (*pomme-liere*).

It is then, or even without the disease having arrived at such a degree of intensity, that, in most cases, some other cause develops all at once a new inflammation, acute, violent, in the lungs affected by the chronic malady; and this new inflammation either quickly destroys the animal, or reduces her to such a degree, that it is with difficulty that she is saved, and, in fact, she loses almost all her value. It is remarkable, that before this last attack occurs, the cow, although often in an advanced stage of phthisis, continues to yield milk, and in a very considerable quantity.

Some farmers know this disease well: others know it imperfectly; yet, when they have a cow that has experienced some of these intermittent secretions of milk, diminishing and returning; when the character of the cough is easily understood, and especially when they are in communication with a veterinarian; these farmers, I say, know that it is time for them to get rid of that cow: they hasten then to send her to the bull, that they may sell her when she is almost ready to calve. Then, within a circle of thirty leagues from the capital, these cows are bought by the

cattle merchants who supply the Paris markets ; and this city and its environs are, in general, the destination of all the bad cows of a great many cantons ; consequently, a considerable number of those that are brought here have in them the germ of consumption.

If we examine the management of these animals by the cow-keepers, we shall find plenty of causes for the rapidly increasing intensity of the disease, and which will well explain the mortality so frequent in their establishments, or, at least, the necessity of so often replacing their cows.

The dairymen buy their cows, either when they have newly calved, or are about to calve. If the purchase is made in summer, the animals are immediately placed in open sheds or houses, and supplied with food abounding with nourishment ; they are consigned to idleness, and repose almost continual. They quickly recover from the fatigue of their journey, or of parturition, and, for a while, every thing seems to be going on well.

Presently autumn arrives, and the temperature of the air becomes too cold for the secretion of milk to continue so abundant, and the dairymen close their cow-houses. Then the principal causes of affections of the chest begin to act cruelly on those, the greater number of whom have already pulmonary diseases, or, at all events, are powerfully disposed to have them.

The stables are shamefully small, compared with the number of the cows. They are narrow, low, and, when we calculate the quantity of air which a cow will usually respire in the course of a night, we find that they have not one-fourth part of that which the purposes of health require. The air is also charged with aqueous fluid exhaled from the lungs and the skin. This water continually runs down the walls of the stables, the beams, and the racks : the cows are covered with perspiration, by means of the heat in which they are so long plunged, and the air charged with water which they expire ; and in the morning, when the door is opened, a thick cloud rushes out of the stable, and the air sometimes fairly drives back, by its almost irrespirable nature, the person who is about to enter.

Is it possible that these animals, already predisposed to diseases of the chest, can long resist these determining causes ? it is rather to be wondered at, that some of the inmates of such a pest-house resist the deleterious influence so long.

This, however, is not all : there are two other causes of disease as powerful as those that have been already described.

In the first place, the nutriment of these cows is always abundant, because they give milk in proportion as the quantity of food exceeds that which is necessary for the purposes of life ;

and, finally, a second cause is to be found in those changes of temperature to which they are exposed during this destructive period, at every opening of the doors, whether it be to bring them food, or to clean the house, or to draw their milk. The effect which is produced on the skin and on the lungs by the air which thus rushes in from behind is sufficiently evident in the sudden roughening of the coat, and the tremors which run over every part of the body.

Annales de l'Agriculture Française.

[To be continued.]

THE HOG IN A WOODY COUNTRY.

By Dr. Doe.

NATURE doubtless designed that the forests should be inhabited by the hog; for the perseverance of the sportsman has not been able to accomplish, in any of our woods, the destruction of the wild boar—the origin of the domesticated hog. Swine fulfil many important functions in a forest country. They destroy the larvæ of innumerable insects that would otherwise prey on the productions of the trees, and on the wood itself; whether it be by devouring them at once, or by consuming those fruits which had escaped the search or the regard of man, but which are thus converted ultimately to his nourishment, instead of contributing to the multiplication of beings that are a nuisance to him.

The hog is continually searching out the larvæ which inhabit the woods and materially injure them, and also those which burrow in the ground and destroy the roots of vegetables. He greedily devours the slug and the snail, the toad, the snake and the adder, which are always unpleasant guests in a forest, and whose destruction is not only advantageous to the wood, but becomes a source of profit to man by the fattening of the hog.

As to the wild fruits which the hog takes away from the noisome and injurious animals, it may be thought that, by diminishing or exterminating the trees that yield them, the services of the hog would become unnecessary; but this is not true. An attentive observation of the economy of nature will shew that trees are necessarily associated together by a compact or bond which man cannot entirely break, and by reason of this fruit trees will be always found with others by a natural and necessary union, at least, in forests that will admit of their growth; so that there will be always fruit for the wild animals to eat, in default of those that are domesticated. It is in vain that, by different methods of cultivation and of sale, the forester would endeavour to produce but one kind of tree alone, those which the soil favours

will always re-appear. His preference of particular species will only extend somewhat to limit the number of others; but he will get rid of them altogether only by the perfect devastation of the forest. Every tree which the soil of the forest suits, being equally the production of nature, will assert its right to existence. Some will produce apples, and others nuts, or acorns, or berries; but all of them are equally dear to the soil, and he must labour hard effectually to cross her affections.

If, then, trees yielding fruit or nourishment, exist almost by necessity, in our forests, the pasturage of the hog there is a kind of natural function; while, at the same time, this animal destroys a vast quantity of insects and other beings injurious to the woods.

It will not be contested, that the feeding of the hog in the forest (*le Glandage*), under the conditions and restrictions imposed by law, is the source of considerable emolument to the forester. The extent of it, in different localities, is an article of political economy that deserves separate consideration.

In the district of Bar-sur-Seine the glandage has been suppressed during some years. The forests have not improved, but the foresters have suffered. Their herds of swine have diminished more than one-half; and, instead of sending their surplus pigs to the neighbouring towns, they have been compelled to have recourse to them for the supply of their own wants.

Annales de l'Agric. Franc. Janvier.

A NEW AND CERTAIN METHOD OF CURING TETANUS.

A FARRIER, residing in the neighbourhood of St. Mawes, having a case of tetanus under his care, and finding that every means that he had employed had failed to unloose the jaws of his patient, as a last resource, tied a strong cord to the lower jaw of the horse, and fixing it firmly in a blacksmith's vice, fired off a gun immediately over the animal's head. The poor suffering animal, as might be expected, was thrown into violent spasms and convulsions; he started back, away followed vice, bench, and, tools; and, the next minute, he lay dead in the smithy. The jaws becoming relaxed in consequence of the death of the horse, it was sagely remarked by the operator, that he had cured the disease; but that the animal not possessing sufficient strength to undergo the operation, had died under it, which would not have been the case if had recourse to it sooner.

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLVIII (continued).

The Treatment of Tetanus—Local Applications.—Blistering.—Cold.—Opiate Frictions.—Food.—Attention to the Focus or Origin of the Disease.—Tetanus in Cattle—Sheep—Hogs—Dogs.

Treatment continued.—WHAT shall I add to the opium? Unless actual purging was going on I should continue the exhibition of the aloes. If I depend on the opium to allay this nervous excitation, I must take into the account, that it will allay irritability, and diminish even natural action every where, and in the intestinal canal among the rest; and, therefore, as not only the aid of the auxiliary muscles is lost, but they are now obstacles to the usual peristaltic motion of the bowels, and the opium will lessen even this, every ball must contain more than sufficient aloes to counterbalance these tendencies to constipation. I have given four and five drachms of aloes for many a successive day, not only without injurious effect, but with decided benefit; and the clysters administered during the day contained, at least, 2℥ss of Epsom salts. Is any thing else to be added? Why, Mr. Wilkinson's ball contained camphor; and common consent seems to have determined that the ball for tetanus should contain camphor; I therefore usually give it. Not that I am satisfied about the effect of camphor on the horse: in great doses I have seen it do harm; in moderate doses, like the camphor julep of the human practitioner, it does neither good nor harm; and, therefore, I retain it, lest, in such a disease, and where the fatal cases far exceed in number those that are saved, I should incur after-reproach. The assafoetida, do I retain that? I should be ashamed of myself if I did. Several perfectly satisfactory experiments have assigned to it the same place which the old

powder of post, if it was ever used, and the *mica panis* of the human practitioner, occupy.

Mr. Percivall, in the first volume of *THE VETERINARIAN*, relates a satisfactory case of the power of opium and aloes over tetanus, assisted, indeed, by a copious bleeding at the commencement; and, more so than my friend is willing to allow, by a second equally copious bleeding by the farrier-major during his absence.

Local applications. Blisters.—Can I call to my aid the powerful principle of counter-irritation? Will any local application—any severe blister along the course of the spine—be of service? I fear not. This is a disease of the spinal chord, and of the inferior columns of that chord; and there is too much integument, and ligamentous and cellular substance, and thick muscle, and dense bone interposed to afford any rational hope that a blister along the spine, however severe, could have effect on irritation or inflammation so deeply seated.

Besides, I can hardly reconcile myself to the application of a counter-irritant in such a case. I have to do with a disease the very essence of which is nervous irritability. The muscular fibres along the course of the spine are those which are in the highest state of excitation: fibrils of the same nerves are carried on to the integument; and the susceptibility of the integument over the whole of the spinal region is increased to an extreme degree. It seems to me that a blister would increase rather than allay the nervous erythism. I confess that this is the light in which I have always regarded the application of blisters along the spine in cases of tetanus. I cannot call to my recollection a single case in which decided good effect has been produced by them; and I have had ocular demonstration, that I have added to the torture of an animal already suffering too much.

Perspiration.—There is one local application, however, which I can make with some prospect of good effect. If I can excite a profuse perspiration along the spine, and keep it in full action for many successive hours, or even days, I should, at least, unload the congested vessels of the part—I should relieve the sensitive fibrils from some compression, and materially lessen the sufferings of the animal. By this maceration, as it were, of the muscular fibre, it may possibly become so debilitated, and attenuated too, as to be incapable of its former extreme spasm; and I know that the whole system must be affected by long-continued profuse perspiration from any part. Therefore I have generally been in the habit of recommending sheep-skins applied warm from the recently killed animal, and renewed as soon as they begin to be offensive: over this, and extending from the poll to the tail, should be double or treble clothing.

Application of Cold.—But is not cold one of the most direct and powerful sedatives that can be applied? Why, I have heard of a tetanic horse being perfectly cured by being turned out on a cold frosty night. I can suppose that when this powerful sedative—powerful under some circumstances at least—is thus universally and intensely applied, and applied to the air-passages, and to the lungs, as well as to the external surface, and the horse has the full effect of it—for he is almost incapable of motion—I can suppose, I say, that the vital powers will be gradually depressed, and that to such a degree that this nervous excitation shall quiet down to almost its natural standard. I can suppose the possibility of this, and should not severely censure those who had recourse to such a mode of cure. I cannot, however, say, that I should be willing to make the experiment myself: there is too much apparent barbarity about it; and to the partial application of cold I have a decided objection, as sadly increasing the torture of the animal without the remotest probability of doing good. I have tried it under the common form of cold water to its full extent—to an extent, indeed, which I can scarcely justify to myself. I have had relays of men, and for twenty-four long hours the water has been pumped or dashed upon the horse. It was cruel work. I did produce some slight remission, but no decided good effect; while the poor animal was cringing at the expectation of every fresh pailful; and when I stood so that he could turn upon me his retracted eye, I shall never forget the expression of that countenance: I do not always like to think of it.

Opiate Frictions.—There is one kind of external application that has not been so much used, or so highly valued as it deserves—I mean gentle friction over the course of the spine with the softest cloth, or, what is far better, the hand, beginning with the lightest possible pressure, and never increasing it much. The horse is a little frightened at first, but he soon gets reconciled to it; and when, at the same time, an opiate liniment was used (powdered opium rubbed down with camphorated oil, or opium and camphor dissolved in olive oil placed near to the fire), I am sure that I have seen relief obtained to a very marked degree; and at length the poor fellow has courted the friction as eagerly as he lent himself to the administration of the gruel.

Tobacco Injections.—These were once in considerable repute, and, in a few instances, were eminently useful, and may be had recourse to in obstinate cases; but we shall not expect too much from them when we consider that their immediate effect is on a different system of nerves from those primarily connected with the disease.

Mr. Egan, assistant surgeon to the 12th Lancers, gives, I am

ashamed to say, one of the best accounts we have of tetanus in the horse, and a very well reported case of it. I suspect, however, that he owed much of this to our excellent and lamented friend Castley, who was veterinary surgeon to the regiment. He says (*Med. and Phys. Journal, Sept. 1825*), "A horse in leaping over a wall tore off a wart from the centre of the abdomen, and the stifle of the near-hind leg was bruised. Eighteen days after the accident, tetanus appeared. Six quarts of blood were taken at two bleedings; the spine, and the muscles of the throat and jaws and left stifle were blistered; a purgative medicine was in vain tried to be administered, and two large purgative enemata were thrown up, which were immediately rejected. On the following day, there being little amendment, the cold affusion was tried; but this aggravated all the symptoms, and rendered the paroxysms more intense and constant. On the following day, it was tried in vain to administer a strong solution of opium, but strong purgative enemata were thrown up; half an ounce of crude opium was placed in the rectum as a suppository, and the animal turned out in the open air on the 1st of May, the night being dark, wet, and cold. The veterinary surgeon now considering the case hopeless, Mr. Egan requested permission to try the effect of tobacco clysters. He infused one ounce of leaf tobacco in a quart of boiling water, and administered it as an injection. It produced a discharge of dark fluid fæces; and he fancied that the next tetanic symptom was not so acute as the preceding. On the following day he infused two ounces of tobacco in two quarts of water, and used it as an enema. The next paroxysm was shortened by half an hour, and from this time the horse continued to amend; but, the enema being omitted for two days, all the symptoms returned. The tobacco was again resorted to, and thrown up two or three times every day until the 30th of May, when the horse was pronounced to be perfectly cured.

Food.—What! a horse with locked jaw, shall we be solicitous about his food? Yes; for he is as hungry as when in health; and if you place within his reach a pail of good gruel, he will nuzzle in it, and contrive to drink some of it too; and particularly if you put a thoroughly wet mash before him in a pail (the manger is hardly deep enough), he will bury his nose in it, and contrive to extract no small portion of the fluid. I have already hinted that, by means of a little horn, or bottle with a very narrow neck, it will often be possible to get down a certain quantity of gruel. The flexible pipe which accompanies Reed's Patent Pump will render this of easier accomplishment. Indeed, there is now no difficulty about the matter; and, next to the power we have obtained of supporting the strength of the

animal, is that of administering the nutriment without elevating the head of the horse, and inflicting on the animal the extreme torture which used from this cause to accompany the act of drenching. Let the jaw be ever so closely clenched, we have but to introduce the pipe between the tushes and the grinders, and carry it pretty far back into the mouth, and we may introduce into the stomach any quantity of fluid we please. Thick gruel, not more than a quart at a time, may also be thrown up as an injection. In this small quantity it will usually be retained and absorbed.

Food continued.—The most important time, however, for attending to the food is during those remissions, occasionally observed in cases that, after all, terminate badly, but more marked when the disease is beginning to give way. The horse may be, and generally is, utterly incapable to take up the smallest portion of food; but if, in these intervals of remission, a little bit is conveyed between his grinders, he will set to work to masticate, or, at least, he will try to do so. Before it is a quarter chewed it will, perhaps, drop from his mouth, and not one morsel will he probably be able to swallow; but what then?—he has been doing good, or you have been enabling him to do so—he has been putting the muscles of his jaws to their proper use. He has been breaking the chain of spasmodic action, and it will not return again so violent as before. On the following day he will do a little better; and, on the next day, perhaps, he may be able—no, not to gather a morsel, but—to swallow one out of a dozen that have been thus conveyed between his grinders. These are minutiae of practice which the young man thinks not of, but experience teaches us their value; and I am sure that I can truly attribute the successful termination of more cases than one to this careful nursing of the patient.

When the horse is getting decidedly better, and the weather will permit of it, there can be no better practice than to turn him out for a few hours in the middle of the day. His toddling about will regain him the use of his limbs; the attempt to stoop to graze will drive the spasm from his neck; the act of grazing will relax the muscles of the jaws, and no better food can he have than fresh grass.

Attention to the Focus or Origin of the Disease.—I have not yet touched on this very important branch of the treatment of tetanus. True, the whole system of voluntary motion seems to be involved; but it proceeded from some local affection. The fire kindled on some particular spot, where there is still probably a focus, a reservoir of morbid action. We must carefully inquire into the history of the horse for ten or twenty days back. If he has been docked, or nicked, or castrated, these things will speak for themselves. Has he been lame in the feet?—has he been pricked

in shoeing?—stubbed in travelling? If you find that he has, examine the wound. It may be a very trifling one compared with the dreadful effect produced. Examine it closely; it will have a peculiar unhealthiness about it—a lifelessness—a bloodlessness; if you cut into it there is but a little jet of arterial blood; and the venous blood is doubly black. The ganglionic nerves have evidently sympathized with the affection of those derived from the spinal chord. Is it in the foot? remove from around the wound every portion of horn that is separated, and freely expose the whole surface to the action of the chloride of antimony. If I had rendered myself quite assured that I had found the focus of mischief, I should not be satisfied with this; but if my patient was a valuable horse, and a draught horse, I should perform the operation of neurotomy. I might not be able at first, much, or at all, to lessen the force of the tetanic spasm; but I should, at all events, cut off the enemy's supplies, and that is a matter of no little consequence. If I detected a wound in any other part that, from the time at which it was inflicted, and, more particularly, from its appearance, raised my suspicion, I would apply the caustic or the cautery severely and effectually to it, and, if practicable, divide the nerve which goes to it. Mr. Brodie has some valuable observations on this in one of his lectures delivered at the College of Surgeons, in 1822; and which, although in some measure contrary to what I have been recommending, I feel myself bound to quote:—He seldom found that a division of the nerve between the seat of injury and the brain had the slightest effect in abating the spasm; and that, on the contrary, neurotomy had occasioned an aggravation of the symptoms, and even amputation had been resorted to with equivocal advantage; but that *the destruction of the injured portion of the nerve was found to be in the highest degree beneficial*.

If tetanus seemed to arise from nicking, the incision should be deepened, and freely exposed to the caustic or cautery; if from docking, another joint should be taken from the stump; if from castration, the cord should be examined; the clams, if possible, applied afresh; the original cauterized surface removed, and the cautery applied anew. If the progress towards healing should render this impracticable, the nitric acid should be freely applied over the whole of the sore surface.

Justification of these Measures.—Whatever was the cause of the disease, it is now become a constitutional affair. However produced, the irritation is now general; the habit is formed, and it is not easily broken; and, therefore, the removal of the local cause will not be always or often successful. Still it is worth trying. A man had been bitten by a rabid wolf; the part was excised; the proper precautionary measures were taken, and he

appeared for awhile to be doing well : but, all at once, symptoms of hydrophobia came on : and they were too plain to be mistaken. The wound, which had been kept open, was examined, and some fungous granulations seemed to be sprouting from its bottom. The caustic was applied : they were removed ; and the general nervous irritability, either hydrophobia or something very closely resembling it, subsided, and the patient did well. I do not know of any case in our practice in which this has been the effect of applications to or operations on the original wound producing tetanus. The records of human medicine, however, contain such ; and I would urge on you this attention to the primary evil, for in such a disease every thing is worth trying.

The Argument pursued.—But I urge the trial of this on other grounds. There is the grand principle of counter-irritation. No two inflammations of great intensity usually exist at the same time. When one is set up, if I can establish another, and if in a neighbouring part so much the better—in proportion to the intensity of the new one, will the other subside. It will sometimes be removed ; it will generally be alleviated : but I must confess that, in a disease of the highest nervous excitation, this attention to the original wound—this attempt to set up a new action, and thus to remove or to lessen the violence of the constitutional affection, has so often failed, that I regard it as a very subordinate portion of the medical treatment of tetanus, yet by no means to be omitted altogether.

Singular Case of Tetanus.—One case of tetanus is so singular that I cannot refrain from relating it. It is also connected with the mode of treatment of which I have now been speaking. A tumour appeared, without any assignable cause, on the point of the left shoulder of an old horse. It grew to an enormous size. It suppurated, but the fluid was deeply seated. It was opened, and a great quantity of pus escaped. With much difficulty, and after a month's hard work at it, the tumour quite subsided, and the wound that had been made in it healed. On that very day tetanus commenced, and was rapidly established, and continued seventeen days until the horse was perfectly exhausted, and the case seemed to be lost : when a tumour began to appear on the point of the right shoulder, and grew as rapidly as the other had done. Instead of encouraging its growth as he should have done, the practitioner set to work to dispel it : nature had, however, accomplished her object ; and as the tumour gradually disappeared, the symptoms of tetanus remitted, and the horse recovered. A great deal of instruction may be derived from this case, and you will preserve it among your records.

TETANUS IN CATTLE.

Tetanus is not of frequent occurrence in cattle, but it is seldom that a beast recovers from it. Its approach is very insidious, and rarely observed by the herdsman until the mischief is done. The animal is off its food; ceases to ruminate; is disinclined to move; stands with its head protruded; but there is no dryness of the muzzle, or heat of the horn, or coldness of the ear; and nothing is done. On the next day the patient can scarcely be made to move at all, and turns just like a deal board; and, then, some suspicion arising as to the real state of the case, and the finger being put into the mouth, the jaw is found to be locked.

Working cattle are most subject to tetanus. They may be pricked in shoeing; or, after a hard day's work, and when they are covered with perspiration, they may have been turned out to graze in a cold and wet night. Over-driving is not an uncommon cause of this disease in cattle. The drovers are enabled, from long experience, to calculate the average mortality among a herd of cattle in their journey from the north to the southern markets; and at the head of the list of diseases, and with the greatest number of victims, stands "locked jaw," especially if the principal drover is long absent from his charge.

Treatment. Bleeding.—The treatment must here, as in the horse, be of the promptest character: the beast must be bled until he staggers, and threatens to fall.

Physic.—Advantage must be taken of the effect, not always so lasting as we could wish, which bleeding produces—a certain degree of relaxation of the spasm, and a dose of physic must be administered. From half a drachm to two scruples of the farina of the croton nut should be given in a little gruel, and with, if it can be then administered, or as soon afterwards as it can, a pound or a pound and a half of Epsom salts in solution. Smaller doses must be repeated every six hours until purging is produced.

The mode of administering the Physic.—There is sometimes great difficulty in producing purging; for, as we shall have occasion to shew hereafter, the direction which the medicine may take, and the stomach into which it goes, is uncertain. It may pass on at once through the third and fourth stomachs, and have its immediate effect on the bowels, or it may accumulate in the paunch, and remain there inert day after day. The manner in which the physic is given may have some influence on this. If the attendant is in a great hurry to take advantage of relaxation of the spasm, and pours down the whole drink as quickly as he can,

and, as it were, in one body, it is very likely to find its way into the paunch. If he goes quietly to work, and gives a little at a time, and suffers it to run slowly down the throat, it will probably flow on to the fourth stomach and the intestinal canal. The explanation of this will be given in the proper place.

The bowels must be opened.—After two or three doses of the medicine have been given without effect, it will be proper to add a strong aromatic—an ounce of ginger; and also a tonic in a somewhat smaller dose, as two drachms of gentian powder. The lining membrane of the paunch is of a cuticular and comparatively insensible nature, and may require some stimulus of this kind in order to excite it to action.

Ulterior measures.—Supposing that four or five doses more have been given, and the animal remains constipated—why, then, it is plain enough that the physic is accumulated in the paunch, and that viscus cannot be roused by any common stimulus. Recourse must now be had to the stomach-pump. The œsophagus tube must be introduced into the gullet, and carried down into the rumen, and warm water must be pumped in until that stomach is filled and overflows; and then the contents of the stomach will either be returned by vomiting, or pass through the third into the fourth, and so into the intestines.

Purging being established, an attempt must be made to allay the irritation of the nervous system by means of sedatives; and here, also, the only effectual drug is opium. The crude opium, dissolved in warm water, and suspended by means of the mucilage of gum, or the yolk of an egg, will be the preferable form in which to give it. The dose should be a drachm, or a drachm and a half, every day; and the proportions of the purgative and the sedative medicines must be so managed that the constitution shall be under the influence of both. This is rather a difficult object to effect, and it may be occasionally necessary to suspend the sedative, for a dose or for a day, when costiveness threatens to prevail.

The beast should be supported by mashes, which it will sometimes contrive to eat, or at least it will suck up the moisture from them; and as soon as there is any remission of the spasm, the animal may be turned out into a field close at hand during the day, and taken up at night.

A seton of black hellebore root in the dewlap may be of service. It is introduced into a new system, a part not under the influence of the disease, and it often produces a great deal of inflammation and swelling. The back and the loins should also be covered with sheepskins, frequently changed, in order to excite a constant perspiration, and, if possible, produce relaxation in

the part principally attacked : but the chief dependence must be placed on copious bleeding at first ; a recurrence to it, if the spasm becomes yet more violent, or fever appears ; and, as a powerful auxiliary, the joint influence of the sedative and purgative medicine.

TETANUS IN THE SHEEP.

Of all our domesticated animals, the sheep seems to suffer most from this disease. Thousands of ewes after lambing, and tens of thousands of lambs lately dropped, are lost every winter, by careless and unfeeling agriculturists. It is not a great deal of attention that these poor beasts require : a linney or shed, a few clumps of trees, or even a thick hedge, to break a little the force of the wind, would render them in a manner comfortable, and certainly would remove very much of the danger : but when they are left altogether unprotected, nothing is more common than, after a cold night, to find some of the ewes, and more of the lambs, dying or dead ; every limb being drawn together, spasmed, stiffened by the cold. In travelling over some of the open parts of the country early on a winter's morning, and in the space of twenty or thirty miles, I have seen more than as many sheep and lambs dying or dead.

This happens again occasionally about weaning time, and the old shepherds pretend to tell what lambs will fall victims to it after castration. If, when the operator is sawing through the cord with his blunt knife, or gnawing it asunder with his teeth, the jaws of the little animal are strongly and spasmodically clenched, he says that that lamb is in danger of locked jaw ; and, in order to prevent its occurrence, he thrusts his thumb into the mouth of the patient, and forcibly separates the jaws. There is, notwithstanding the sarcasm of Hurtrel D'Arboval, much good sense in this : the spasm is interrupted, and the charm is broken, and the disposition to this excess of muscular action is got rid of before it has had time to establish itself generally. Rams are particularly subject to tetanus after castration, and especially, it is said, when the operation by torsion (*bistournage*) is improperly performed.

Symptoms.—Tetanus generally commences in the sheep, with singular involuntary spasmodic motion of the head, and some or all of the extremities. To this succeeds a peculiar stiffness of the greater part or the whole of the frame : the neck is protruded, and the head bent back, and forcibly retained in that bended form : one leg is drawn up, and fixed in an unnatural condition. The rigidity occasionally relaxes, and gives way to violent convulsions of the head, neck, and extremities, followed again by fixidity of them and of the whole frame. The disease

runs its course most speedily. The animal is often dead within twelve hours after the first attack, and, if he lingers on beyond six-and-thirty hours, it may be regarded as a pledge of his ultimate recovery.

Treatment.—The indications of cure and the means of accomplishing it are the same. A bleeding from the jugular, or from the eye vein, should be immediately effected; and, before the jaw becomes thoroughly fixed, one or more doses of the “castor oil mixture,” already frequently recommended, should be given; it combines the purgative and the anodyne, which such a case requires. Some administer two drachms of aloes, or three or four drachms of Epsom salts; and, after that, and as long as the spasm continues, they give repeated doses of that well known compound, the calves’ cordial. The object sought to be accomplished is the same; the opium should at least speedily follow the purgative. I would, however, rather say, that they should be combined; and in the castor oil, syrup of buckthorn, and syrup of white poppies, there is a combination of purgatives and an anodyne well calculated to produce the desired effect.

Tetanus is a far more manageable disease in the sheep than in the horse or ox. Thousands die, because nothing is done;—but a bleeding being effected—the bowels having been opened—the lamb having been put into a warm bath—and then being tolerably dried and wrapped in blankets, and placed in a basket in a warm place or before the fire, and a little gruel, mingled with ginger and ale, or even the housewife’s gin, being administered, a cure will often be effected.

TETANUS IN HOGS.

Many a young pig dies tetanic seven or eight days after castration, and especially if it has been too well fed in the mean time. It is not an unfrequent malady among pigs that are driven to a distant market; and especially if, heated by travelling, or by exposure to the sun, they are suffered to roll themselves in a brook or ditch, which they will frequently attempt to do.

TETANUS IN DOGS.

Why this useful animal should be so little subject to tetanus I am unable to explain. Sportsmen say that it sometimes attacks the dog, when, heated in the chase, he plunges into the river after the stag. Tetanus is termed by the French *mal-de-cerf*, from stags being supposed to be attacked in a similar way from the same cause. In the course of three-and-twenty years’ practice on the animal, I have seen but two cases of it. The first arose from a wound in the foot: the cause of the second I could not learn. They both terminated fatally.

The spasmodic action is dreadful as well as universal in this poor animal. The dog lies generally on his side, his neck and his legs stretched out, and the upper legs kept some inches from the ground by the intensity of the spasm. He is literally a fixture. He may be taken up by either leg, and not a portion of the frame changes its direction. At the same time, in his countenance, and by his hoarse cries, he indicates the tortures which he endures.

TETANUS.

By PROFESSOR VATEL.

THE nervous symptoms known under the name of tetanus consist in spasmodic and permanent contractions of the muscular system, and particularly of the extensor muscles. The horse and the lamb are most exposed to the attack of this disease.

The contractions attack, at first, the muscles of one region alone; and they proceed from one to another until they become general, and frequently terminate in death.

The muscles of the jaw are often the first affected (trismus); at other times the neck, the trunk, and the limbs (opisthotonos); the animal is then unable to walk, he becomes altogether stiff, and he, at length, falls like a piece of board, and is unable to rise again.

Tetanus, in the majority of cases, depends on a nervous irritation—often an inflammatory one—of the substance of the spinal cord.

The principal causes of tetanus are, the action of cold and wet, especially when the animal is in a state of perspiration—metastases of inflammation—inflammatory irritation of the digestive canal, or the simple nervous irritation produced by the presence of worms or foreign bodies; irritation produced by wounds (traumatic tetanus), especially those produced by nails, or following painful operations, and particularly castration.

Many means have been tried by which to combat this cruel malady: bleeding, warm, hot, and cold baths for smaller animals; warm, hot, and cold affusions, and immersion in hot steam, for larger ones: all the most powerful antispasmodics, vermifuges, sudorifics, and especially ammonia, narcotics, and particularly opium. Among these agents, bleeding, warm baths, lotions, and affusions; ammonia mixed with water, as drinks, or mixed with oil, as frictions; the carbonate of potash dissolved in water, as an injection, or applied externally by means of compresses, and, finally, opium, are those that have been

sometimes successful. But, however that may be, it is always necessary to inquire into the causes of tetanus, in order to combat them ; and if the causes cannot be discovered, a strict antiphlogistic system may be pursued with less scruple in the treatment of this disease, almost always fatal.

When tetanus follows the ceasing of the suppuration of a wound, that discharge should be re-excited by the application of mild excitants. If the wound is closed, it should be re-opened ; if foreign bodies, as splinters, exist in it, they must be removed. Finally, when from the locked-jaw the animal is unable to swallow, some have advised that the operation of œsophagotomy should be performed, in order to permit the introduction of medicaments and food into the stomach.

Elemens de Pathol. Vet., vol. i, p. 54.

TETANUS IN A DOG.

By M. DEBEAUX, M.V., Chasseurs de la Garde Royale.

Nov. 4, 1835.—I WAS desired to examine a spaniel. He was a beautiful animal, and had suddenly disappeared from the house of his master. On the fourth day, however, he returned worn out with fatigue and hunger.

In the excess of their joy, and forgetful of his emaciated state, they gave him as much as he would eat ; and on the following day he appeared to be very ill. His owner thought that he was poisoned, and I was sent for. I found him with his mouth filled with foam ; his eyes weeping, the pupils dilated, and the conjunctiva much injected ; his neck spasmodically contracted, and immovable ; and the spine of his back considerably bent, and exceedingly tender. Before my arrival they had given him some milk, and oil, and broth, and medicine, but of what kind I could not discover, therefore I prescribed nothing at first. Every symptom soon disappeared, but they returned an hour afterwards with greater severity. The dog was then couched on his belly ; his fore-legs extended and stiff ; the muscles of the neck powerfully contracted ; the pulse small and accelerated ; convulsive tremblings of the limbs ; continual hoarse howling for twenty minutes, when the voice gradually died away. The convulsions increased in violence, they were renewed every three minutes, and, when they remitted, the dog seemed to be completely exhausted.

A dozen leeches were applied at the pit of the stomach ; laxative injections were administered, and anodyne embrocations were rubbed on the back and neck.

5th.—In the same state. A mild purgative, and emollient fomentations.

6th.—Ten leeches on the same place: other treatment the same.

7th.—The intensity of the symptoms augmented. The jaws are closed so that no medicine can be administered; the excrement is hard, black, and fetid; the conjunctiva of a yellow colour. Place fifteen leeches on the epigastrium, let them bleed for an hour; emollient clysters; anodyne drinks; which, with the greatest difficulty, he was made to swallow.

8th.—The symptoms are less intense, and the animal less agitated. The pulse is softer, but the contraction of the neck and the sensibility of the spine are the same: the voice is hoarse, and can scarcely be heard; the jaws are fixed. Give anodyne drinks, and injections in which asafœtida has been dissolved.

9th.—The sensibility of the spine is excessive. The animal lies on its belly, with its legs stretched out; the neck is stiff, and the jaws closed; the voice is hoarse, and the animal cannot move a limb. Emollient baths; injections of the same kind; fat broths.

10th.—A copious diarrhœa, of a black and very fetid kind; the eyes weeping; swellings about the roots of the ears; the neck less stiff; the spine very sensible, and always bowed. Asafœtida in the broth; and, after being well bathed, the animal was thickly covered with flannel.

11th, 12th, 13th.—No change. The same treatment.

14th.—Considerable amendment. The dog can slightly move his jaws; he searches about for meat; the voice is less hoarse, and the cries expressive of dreadful torture have ceased; the neck is less stiff and contracted; and the spine has lost its unnatural sensibility. Continue the treatment.

15th.—The muscles of the neck have regained their usual suppleness; the spine is in its natural state. The animal of its own accord eats a little soup; his spirits are better, and the voice is regaining its natural tone.

20th.—No trace of the disease remains.

Oct. 5th.—The dog travelled two leagues with his master; the weather was cold, and the ground covered with snow. On his return, every symptom already described was again developed. I resorted to the same course of treatment, but without avail. I then applied a blister to the chest, applied emollient fumigations all over the body, and administered soothing drinks and emollient injections. At the end of the eleventh day the dog was again well.

THE EFFECT OF CANTHARIDES IN CASES OF FARCY.

By Mr. THOMAS HOLFORD, V.S., Northwich.

THERE are scattered through the pages of that valuable and highly interesting journal, THE VETERINARIAN, various opinions as to the effect of cantharides, and more particularly relating to a specific action which they are supposed to possess in the cure of glanders and farcy. The following extracts are the result of a few cases out of many in which I have given the fly with considerable success.

CASE I.

May 20th, 1833, I was requested by G. Woolrich, Esq. of Sutton Hall, to take a black mare (in foal) under my care. She had been bled by the owner, but to no good effect. I found her affected with farcy. The left hind leg was enormously swelled, from the foot to the hip. There was also a great deal of febrile excitement going on in the system, which led me to repeat the bleeding, and administer a purge.

21st.—Physic operating, and the enlarged leg a little diminished.

23d.—The swelling gradually diminished, while the cathartic medicine acted; but as that subsided the enlargement returned.

24th.—*R. pulv. lyttæ ʒj, rad. gent., zingib. sem. carui ana ʒj*, divided into six balls, and give one daily, turning her out to grass in the daytime. After one or two doses she began to improve; and when the balls were finished, she went to work perfectly recovered. This mare has been free from any return of the disease since that period, a circumstance contrary to her usual habit prior to having this medicine.

CASE II.

An aged entire horse (which is since dead from hydrothorax), belonging to the same gentleman, was found, *June 23, 1833*, to be similarly affected. The same tonic medicine was given, but the cantharides were increased to viii grs. in each ball. In about a week the horse went to work quite well. After the medicine he improved in his condition, and looked better than he had done for a long time before.

CASE III.

In the afternoon of *October 14th, 1834*, I was requested to attend an aged carriage horse, sixteen hands high, the property

of Lady Amelia Key. I found him labouring under an acute attack of pneumonia, combined with farcy in the posterior extremities.

The groom informed me that he had periodically physicked him, but, in consequence of her ladyship changing her residence, it had been neglected this season. For the last week he had been worked hard in the carriage, sweating a great deal, and afterwards standing till a late hour in the streets of Chester. He had only arrived at his new stables yesterday afternoon, and, when the coachman left him last thing at night, he appeared in good health. I bled him until the pulse faltered and symptoms of faintness appeared, and I afterwards gave a nauseating ball of aloes, digitalis, and tart. ant., and clothed him warmly, and bandaged the legs, &c.

15th.—No better; v.s. xii lbs. I gave a ball of potass. nitrat., ant. tart., and digitalis, and applied a stimulating embrocation to the fore extremities.

16th.—The pneumatic symptoms have subsided, but the farcied legs are worse. Gave an aperient ball.

17th A.M.—The physic had not operated; the groom wanted him to have more, but I objected to it. P.M.—Purging.

18th.—Purging. I gave an opiate at night.

19th.—The physic is set; the horse eats a little better to-day.

20th.—Much as yesterday; I gave no medicine to-day.

21st.—The inflammatory symptoms have quite left him; but the farcied limbs are worse; the absorbents are corded on both legs, from the hock upwards. He feeds better, and for the first time (since he was taken ill) he has lain down.

22d.—I now ventured upon tonics, and gave the p. lyttæ gr. iv, et gent., zing., carui sem. pulv., ana ʒj daily up to the 29th, during which time my patient rapidly improved in condition. He now feeds well, is in good spirits, and the enlargement of the limbs and the corded absorbents have quite disappeared. There still remains a swelling along the inferior surface of the abdomen, which began to be seen when the inflammation of the lungs disappeared. I applied the linim. lyttæ, which dispersed it in a few days.

CASE IV.

On February 15th of the present year, Mr. J. Lowe, of Newton, requested me to see a mare that had been returned as unsound. He bought her of a neighbouring farmer, on the 1st or 2d of January, for the person that returned her. She was in Mr. Lowe's possession about a fortnight prior to the purchaser taking her away, during which time she was observed to have a

catarrhal affection, and for which Mr. L. obtained some medicine from Mr. Frith, farrier, of Middlewich. Yesterday the purchaser left the mare with Mr. L., requesting him to return her to the farmer from whom he bought her, as he declared that she had done only a week's work since he had her, and that he had called in a veterinary surgeon who resides at Stone, together with the horse-keeper, both of whom (the man said) declared that she was rotten.

Upon entering the stable, I found my patient to be a living skeleton; and, on further examination, I discovered that the breathing was accelerated, and the pulse increased in frequency, but of a peculiar debilitated character. She was often coughing, and the sound of the cough indicated mischief of the respiratory organs; in fact, the animal seemed to be in a state of rapid consumption. There was, however, a sleek coat and bright eyes, which gave me some hope of exciting the system to rally again. I ordered her to have nutritious food, in small quantities at first, and which was to be daily increased: she was also to be daily exercised. I gave tonic medicine for nearly three weeks, as recommended by Mr. Vines, beginning with formula No. 1, and increasing it to No. 2, for glanders and farcy.

March 1st.—She went to moderate work, and is so much improved that a stranger would not know her. Medicine continued.

7th.—Rapidly improving. Medicine discontinued.

May 14th.—I saw my old patient to-day drawing manure. She is looking very well, but there still remains a chronic cough, which, I believe, will never be removed.

I am now giving the cantharides in a case of farcy, with extensive ulceration of the fore extremities. The patient is apparently going on very well.

INDIGESTION, WITH TYMPANITIS (FLATULENT COLIC) IN TWO HORSES, CURED BY PUNCTURE OF THE CÆCUM.

By M. DUBUISSON, Château Thierry.

ON the 7th of May 1833, a vine-dresser sent for me to see a little horse, about five years old. It had been previously bled by a farrier. After a rapid examination of the animal, and hearing the account that was given by the owner, I was convinced that it was a case of intestinal indigestion. The pulse was small, and a little accelerated; the membranes of the eye were pale;

the tongue dry, the hair staring, and there had not been for some time any evacuation either of urine or fæcal matter. Evident colic had followed a full feed on coarse grass.

I foresaw that I should have a serious case to deal with, aggravated by the bleeding that had so incautiously been made.

My treatment consisted in the administration of bitter and stimulating drinks, coffee, some emetic tartar, and the continued application of friction to the belly. This was continued during the night without producing the slightest amendment. The belly, on the contrary, became more distended; the flanks filled out; the respiration was increasingly laborious, and the animal trembled all over.

At four o'clock in the morning the patient was stretched on the litter, and threatened with immediate suffocation. The coldness of the extremities, the imperceptible pulse, and the appearance and manner of the horse, announced approaching death.

I did not hesitate for a moment to propose puncture of the intestine, to which the proprietor consented. I then, having taken the usual precautions, which it would be superfluous to detail here, plunged my trocar, sheathed by its canula, into the right side of the animal. As soon as I had withdrawn the instrument from its sheath, the gas rushed out violently, making a loud and remarkable hissing noise. The flank began gradually to subside; the respiration was more easy, and the horse was relieved. After having effected the entire expulsion of the gas, I found, on pressing the belly gently round the artificial opening, that there ran from the canula a green liquid, which appeared to be juice of the grass which the horse had eaten so eagerly; and there were also some portions of the grass that had not undergone any sensible alteration.

Twenty minutes after the operation the horse was so much relieved that I pronounced him to be out of danger. I withdrew the canula, and placed a little adhesive plaister over the wound in order to prevent the entrance of the external air into the abdomen. Compresses were fitted over the plaister the better to secure it, and the animal was covered with a woollen cloth. The colic had ceased from the moment of the operation. The horse remained some time in a state of slight somnolence, and then the pulse began again to be developed. An hour afterwards, the animal voided an enormous quantity of pultaceous excrement, which had a most offensive smell. It contained in it a considerable quantity of oats unbruised by mastication, and the residue consisted of coarse grass imperfectly masticated, and on which the process of digestion had scarcely commenced.

Having now no more to fear from the bleeding so untimely

practised, and in order to guard against the reaction which might possibly follow, I abstracted six pounds of blood. I ordered thin gruel, made of barley-meal and containing a little salt, to be given from time to time, with a small portion of boiled carrots: all other food was forbidden. I also prescribed occasional injections, and the fomenting of the side on which the operation had been performed with infusion of linseed, and to keep the animal warm. This regimen was strictly followed during fifteen days, at the expiration of which the wound was completely healed.

The horse remains well to the present day.

This case, and another precisely like it, but into the detail of which I will not enter, prove to me,—

1st. That intestinal paracentesis in colic complicated with flatulence is not so dangerous as it has been generally thought to be; and

2d. That it is useful, nay, indispensable, when the presence of gas in the intestine causes a suspension of the digestive functions, and especially when the swelling is considerable, and the animal threatened with suffocation. In the last case, I punctured the intestine twice, and twice produced relief, and eventually saved the patient. Nevertheless, I am inclined to think that it should only be employed as a last resource, and when the death of the animal would be otherwise inevitable. Bleeding ought never to be neglected after the operation, when the fæces have been evacuated, and the diet should be strictly attended to for some days.

We may, perhaps, trace the advantage resulting from puncture of the intestine to two circumstances—the entire escape of the gas, which would oppose a powerful obstacle to the process of digestion; and the rapid and powerful motion of the intestine, which, returning to its former size, presses upon the alimentary matter contained in it, and urges it forward in its natural course. This pressure of the intestine is the object sought to be produced by the stimulant or purgative substances given before or after the operation. On both the horses on which I operated, copious alvine dejections very soon followed the puncture.

Rec. de Méd. Vét., Avril 1835.

ON PUNCTURE OF THE INTESTINE.

By Professor VATEL, of Alfort.

THE instruments necessary for this operation are those employed in the puncture of the rumen, only the trocar should be

somewhat smaller. The puncture is made in the middle of the right flank, for there the large intestines are more easily reached. It is usually the origin of the ascending portion of the colon, or the base of the cæcum, that is pierced.

If puncture of the rumen is attended with little danger, this cannot be affirmed of the large intestines of the horse; for, in the great majority of cases, the patient has afterwards died of peritonitis, or of some serious abdominal complaint. It is only when the practitioner despairs of otherwise saving the life of the animal that this operation should be attempted.

Elemens de Pathol. Vet., vol. ii, p. 296.

INFLAMMATION OF THE FORE-ARM AND JOINTS, AND INTROSUSCEPTION OF THE ILEUM, IN A COLT FIVE WEEKS OLD.

By Mr. W. A. CARTWRIGHT, Whitchurch.

ABOUT five o'clock on Sunday morning, June the 7th, 1835, Mr. Wilson, of this town, discovered a colt of his, five weeks old, that was suckled by the mare in the field, and which had been perfectly well over night, to be evidently ill. I saw it at eight in the morning; it was then standing up, but could scarcely stir, in consequence of being very much swelled from the scapula to the knee, but especially all round the radius. His respiration was extremely quick, and his pulse full, rapid, and bounding. I ordered him to be brought out of the field (the weather being extremely hot) and to be put into a cool stable. I took a quart of blood from him, made five or six punctures into the œdematous parts, gave him alterative fever medicine, and ordered the parts to be continually fomented.

9 P.M.—The same. I abstracted half a pint more blood.

8 A.M.—The respiration still very quick, and the pulse rapid and small; but the limb is not quite so large, in consequence of the discharge from the punctures. I took nearly a pint more blood, and continued the medicine. He remained in nearly the same state until about seven o'clock the next morning, when he died.

No fæces were voided during his illness.

Examination.—All round the radius there was much serous distention, in a great measure approaching to suppuration or gangrene. It would appear that it was the cellular tissue and fasciæ of the parts that were principally affected, as the muscles retained their natural appearance and colour.

The Joints.—In the shoulder, elbow, and knee, there was much inflammation of the ligaments and capsules, and part of the synovia was coagulated and curdy, in a manner similar to what escapes from an open joint after it has been exposed some time. Within the sheaths of the tendons that pass over or are in the neighbourhood of the joints, and especially the knee, there was very great effusion of serum, and similar coagulation.

On opening the abdomen, I was surprised to find in the ileum a violent case of intromission. The inside of about two feet of it contained at least two yards of the adjoining small intestines, firmly impacted, and having within it another portion of intestine firmly embedded. The part into which the other was forced was sound; but the contained portion was almost in a gangrenous state, and had much resemblance to a mass of coagulated red blood.

It was from the superior part of the ileum downwards that the intromission had taken place. The colt did not attempt to roll, or shew any symptom of diseased bowels when alive.

REPORT ADDRESSED TO THE PREFECT OF POLICE, BY M.
HUZARD, JUN., RESPECTING THE PULMONARY PHTHISIS
OF COWS IN PARIS AND ITS ENVIRONS.

[Continued from p. 359.]

I THINK that, after the facts and the considerations that have been stated, we ought no longer to wonder at the frequency of pulmonary phthisis among the cows in the Parisian dairies. Nevertheless, the apparent caprice in the manner in which it attacks individual animals, and makes its progress through different establishments, has given it, among cow-keepers, an air of the marvellous, and has left on the minds of persons somewhat acquainted with science, but who are unable to appreciate the causes of its frequent appearance, an uncertainty as to the nature of this enzootic. I think, however, that a serious examination of facts, so singular in appearance, would easily clear up the greater number of the difficulties, and would resolve all the questions which your instructions to me contain.

“Why are some cows never attacked by this disease?”

“Why do some cows resist its influence longer than others?”

We know that in all species of animals there are some that resist the most intense causes of disease—even the direct conta-

gions—and that through means of an organization which no science has been able to detect or explain. I know not, in fact, whether, on examining with care all the cows that go from the dairies of Paris to the abattoirs, we should find any that had the pulmonary organ perfectly sound.

“Why is the disease more destructive in some dairies than in others?”

“Why does the disease rage more in some dairies than in others, without reference to the construction of the cow-house?”

The different manner in which the cow-houses are constructed—the greater or less care which is taken to secure a sufficient renewal of the air—the course of feeding, more or less natural and wholesome—and, more than all, the care which is taken to purchase the best and healthiest cows, these considerations, and particularly the last, will perfectly explain these pretended anomalies. Is it astonishing that the rich dairyman—he who, on account of his money, is able to pay better; who can select the best cows that are brought to Paris, or who can send his bailiff to buy them at the best markets—should lose fewer cows than others? Is it astonishing that this wealthy man, when he hears one of his cows beginning to cough, chooses rather to fatten her for the butcher than continue to milk her, at the risk of seeing her eventually perish by consumption? a result which continually happens to the poorer dairyman, who, not having the means so to fatten his cow at the moment as to produce much money, with which he may purchase another to supply her place, continues to milk her until a sudden attack of phthisis forces him to get rid of her at any price.

“Wherefore, in certain years, is the disease more violent than in others?”

“Why does the malady rage as much in summer as in winter, although in the former season the cow-houses are well ventilated?”

If there are certain years when the variations in the temperature of the atmosphere are more sudden, or of greater extent, the greater or less intensity of the disease is well explained; and at other times, when we are unable to devise the cause of these differences, it is fair to attribute them to changes in the atmosphere, the nature of which has hitherto escaped the researches of the most scientific persons. There are many other diseases, the intensity and the very development of which we are perfectly sure that we are right in attributing to atmospheric influence, although we cannot explain the nature of that influence.

With regard to the second of these questions, we know that a

certain electric state of the atmosphere continued during several days is most unfavourable to animals in the early stage of phthisis; and as it is in summer that this electric state of the atmosphere principally prevails, and as the dairyman makes no change in the food and general management of the cows on account of this peculiar atmospheric influence, it is not wonderful that acute inflammation of the chest should be superinduced on the previously existing chronic disease which is seldom long absent from any of our cows.

“Why is the disease generally most prevalent and fatal in the spring?”

We know that in the spring of the year a general development or turgescence manifests itself in all organized bodies; and that, at this season, they who are affected with chronic diseases have great reason to fear a relapse. It is not, therefore, surprising that consumptive cows, coming from a situation and mode of treatment calculated to increase the disease, or at least the disposition to be affected by it, and changed often at that period to a kind of food much more succulent and nutritive, should exhibit symptoms of inflammatory disease.

From all that has been stated, it will be seen that there is little room for the interference of Government in order to remedy the evil so complained of. That evil is utterly beyond the reach of magisterial control.

The only measure which Government, in the utmost exertion of its power, could adopt, is to direct the cow-keepers to keep their cows in larger and loftier houses, where they may have the air necessary for respiration during the night, or it may be renewed in a manner least injurious to them. But the administration would be averse to adopt any measure that would cripple this kind of industrious employment, by rendering a more considerable capital necessary, either in the building more convenient places, or the renting those of larger size and better construction.

I now arrive, M. Prefect, at the most important of the questions submitted to me, namely, the employment of the flesh of animals attacked with phthisis as an article of food. This also will demand some lengthened detail, or it may be difficult sufficiently to base an opinion that will be repugnant to the prejudices of many persons.

Among animals of the bovine species labouring under the commencement of an attack of chronic pulmonary phthisis, where there is a mere engorgement or slight hepatization of the lung, there are periods when the secretion of milk diminishes, and the animal takes on a disposition to accumulate fat. Intelligent dairymen are aware of this, and profit by it; and they set

to work immediately to fatten these cows, and, as soon as they are got into tolerable condition, they send them to the butcher.

From time immemorial, we have consumed in Paris the flesh of cows labouring under pulmonary phthisis in its first stage, and we have regarded it as coming from cows in good condition, and as good cow-beef.

But this is not all: in these consumptive cows, in which the dairymen have suffered the first favourable moments of fattening to pass by, and in which the malady has continued to progress, acute pulmonary inflammation is suddenly superadded to the original chronic inflammation, and the owner well knows that the beast would perish in a few days if it were not sold to the butcher at an inferior price. When these cows are examined after death, their lungs are found to be filled with tubercles—the pleural membranes are tuberculous—their naturally free surfaces are agglutinated together by organized bands—they are covered by false membranes, more or less dense—they are moistened by a bloody fluid of the colour of lees of wine—the tubercles in the substance of the lungs have sometimes already formed themselves into abscesses, and have an offensive smell—and a great portion of the remaining part of the lung, although less diseased, is hepatized. In this state of things, the butcher casts aside the lungs, the pericardium, and the mediastinum—the parts of the ribs and the diaphragm, the pleura of which was covered with false membranes—and he sells all the rest as the usual meat of the second quality. This commerce has always been carried on in the neighbourhood of Paris, and in Paris itself, before the building of the abattoirs; and although we could never persuade ourselves that that meat was not bad, we have no proof that it was injurious to health.

If, however, we inquire into other analogous circumstances, we shall meet with a crowd of facts which appear to prove the harmlessness of this kind of food, this meat of the second quality, when taken from sick animals, or even from those that have died of disease.

In the dreadful epizootic that destroyed so many cattle from 1814 to 1816, the city of Paris was constantly supplied—rich and poor, without exception, and for the space of many entire months—with the flesh of animals that had been attacked by the typhous, contagious epizootic, and of others often that had died before they were sent to the slaughter-house; yet during that time no serious disease that could be attributed to that cause appeared in Paris.

The greater part of wandering poor shepherds, in former times, and in those countries where they now exist, only kill for the

purpose of food, animals that are sick, consumptive, or that would soon die, and that would be rejected with disgust by other people.

Finally, examples might be cited in which, when animals have died of putrid diseases, the butchers that destroyed them, and the soldiers that cooked them for food, have been infected and have perished, but that meat has been eaten by their comrades without the slightest ill consequence. It appeared that the cooking destroyed the virus, and rendered the flesh of these animals apparently harmless when taken as food.

Happily, these putrid diseases in cattle are now rare in Paris, and there has not been for a long time any example of either butcher or cook being affected with malignant pustules from handling the flesh of diseased animals.

You will not draw from these facts the conclusion, that I do not think it necessary that any surveillance should be exerted over the sale of butchers' meat. I think, on the contrary, that that surveillance should be as active as possible, and that the low price of this kind of food should not induce poor families to make it their principal or habitual food. We know that bad food which may be taken once without inconvenience, may become, by constant use, the cause of disease; and we know also, that the flesh of animals which has undergone the commencement of putrefaction, may, in some cases, produce the most serious mischief with regard to the persons that touch it.

I think, then, that with regard to the case of which I am now treating, the mayor should watch with the greatest care the sale of animal food by the butchers and dealers; that he ought to destroy all the food which he finds on the premises of these men which is of bad quality; that he ought to forbid the sale of the flesh of every sick animal, and, for a much stronger reason, of every dead animal, unless a veterinary surgeon and a physician, appointed by government, should decide that such food may be eaten without danger.

The injunction to the butcher not to sell any sick animal, and especially any dead one, unless permission to do so has been accorded to him after the inspection of a physician and a veterinary surgeon, would render the sale of this kind of food difficult, if the local authorities would exercise due vigilance. In Paris, the regulations of the abattoirs would render all fraud of this kind almost impossible. In the country communes a little surveillance on the part of the proper officers would render the attempt rare, and generally fruitless.

Finally, I think that, under all the circumstances, and putting

out of the question many exaggerations and false reports, the public health is not compromised by the existence of this disease among the milch cows of Paris.

Annales de l'Agriculture Française.

RUMINATION, AND THE FUNCTIONS OF THE STOMACH IN RUMINANTS.

By Mr. LUCAS, Liverpool,

WHATEVER pleasure the aspirant to a knowledge of veterinary science may receive from the study of the physiology of digestion in the horse, yet when he becomes acquainted with that of the ruminant, he must be struck with the superior claims it has to be considered as one of Nature's most beautiful works. Here a wide and luxuriant field is open to him for research: and his investigation is sure to be attended by the acquirement of knowledge, interesting and important. The consideration of a structure so complicated, yet so beautifully adapted for the functions it has to perform, must fill every thinking mind with admiration and wonder.

The first difference of structure we perceive from that of the horse, as it regards their digestive organs, is, that the ruminant has no incisor teeth in the upper jaw, their place being supplied by a densely fibrous and highly elastic pad. By means of the teeth in the lower jaw, and the pad in the upper one, assisted by the lips, which are longer, more muscular, harder and firmer in texture than those of the horse, the herbage is partly cut, partly torn up by the roots: it is slightly, or scarcely at all masticated, but is mixed with the saliva, and formed into a pellet, and swallowed.

At the base of the œsophagus, however, there is a great peculiarity of structure. As it approaches its termination, this tube enlarges and becomes thicker and stronger in its parietes; and when it reaches the stomach, it abuts upon two powerful muscular pillars, which, when open, leave a passage of communication between the œsophagus and rumen, and also with the reticulum; and when shut, form the floor of the *œsophagean canal* which leads on to the third and fourth stomachs. I will consider the physiology of this structure when I have explained that of the stomachs, which are in the ruminant four, viz. the rumen or paunch, the reticulum, the maniplus or manifolds, and the abomasum.

The rumen is the largest of all the stomachs. It is situated on the left side of the cavity of the abdomen—extending from the diaphragm to the pelvis; its inferior surface resting on the floor of the abdomen, and its superior one being in contact with the left flank. It is divided by a large scissure or muscular band into two distinct sacs; and these are again subdivided, thus forming four compartments. These separations are for the purpose of retarding the food in its passage through the rumen, so that the process of maceration may be more effectually carried on.

The rumen is composed of four coats—an external peritoneal, a muscular, a glandular, and an internal dermoid or cuticular. The internal coat is studded with numerous papillæ, which are most developed at the centre of each compartment. They are erectile, and are for the purpose of protecting the follicular glands beneath them from being injured by the food as it passes over them. They also assist in retarding the food and in mixing it with the mucus or alkaline fluid, which is secreted by these glands.

There are two openings into the rumen, one through the two pillars communicating with the œsophagus, and the other (which is guarded by a valvular fold of the rumen, running obliquely across it) leading to the second stomach or the reticulum. This stomach is situated anteriorly and rather to the right side of the upper or left sac of the rumen, and between it and the diaphragm. It is, I believe, considered to be the smallest of the four stomachs, and is composed of the same number of coats as the rumen, differing from it only in that its internal coat consists of numerous wide and shallow cells, which present a beautiful net-work appearance. On their sides and in their centres are developed innumerable papillæ, which have undoubtedly a secerning function. It has two openings into it, one which I have already mentioned from the rumen, and the other through the posterior part of the two pillars communicating with the œsophagus.

The third stomach, or maniplus, is situated posteriorly to the reticulum, between the liver and the right sac of the rumen. It is of a most peculiar but beautiful structure, consisting of a series of folds or plaits, which are arranged in a perfect and exact order. Thus, a long fold hangs down from the roof of the stomach, floating freely within it, and reaching down to its floor; on each side of this is another lesser one, and beyond that another, until the last one is very small. Then commences another group similarly arranged: this is followed by a third, and so on, until the viscus becomes filled, or, as it were, made

up of them. These plaits or leaves consist of a folding or double reflection of the cuticular coat, with muscular fibres interposed : on their external surface are developed innumerable small prominences, which are of a very hard, firm texture, and become more so as they approach near to the edges, where they assume a hook-like shape. They are most numerous at the anterior part of the viscus, where they are most required, and least so at the posterior part which communicates with the abomasum.

The abomasum is the true digestive stomach ; for it is here that the food, which has been prepared by the other stomachs, becomes mixed with the gastric juice, and is formed into chyme. It is of a conical form, the base being anteriorly situated. It is placed posteriorly to the maniplus, and to the right of the right sac of the rumen. It is lined internally by a villous membrane, which is arranged in longitudinal folds. These are most developed at the anterior or wide part ; and, generally, there is one more particularly so at the entrance into the maniplus, allowing the free passage of the food from it to the abomasum, but entirely preventing its return, and thus discharging the function of a valve. The abomasum communicates posteriorly by its pyloric extremity with the duodenum ; and here its muscular coat becomes thicker and stronger, and forms a kind of sphincter. It is more largely supplied with blood and with nervous energy than any of the other stomachs.

The intestines of the ruminant are not so large as in the horse, but considerably longer.

I will now, imperfectly I fear, but as well as I am able, endeavour to explain the physiology of the structure I have been attempting to describe.

The food having passed down the œsophagus, comes in contact with the two muscular pillars, which are immediately over the left sac of the rumen ; and, either by instinctive influence, or by mechanical force, the pellet being hard, and the muscles of the gullet strong, these pillars are forced open, and the food falls into the left sac of the rumen.

The food is then, by the contraction of the muscular coat of the rumen, propelled through its different compartments, becoming mixed with the fluid which is there secreted, and also with that that has been swallowed and entered into the rumen. It is macerated and prepared for another process. The ox takes a deep inspiration. The diaphragm becomes tense, and presses upon the rumen and reticulum anteriorly. The abdominal muscles contract, and lend their aid posteriorly. The stomachs themselves also act powerfully, and contract upon their contents, and a portion of food (which had been previously forced out of

the rumen, and through the valvular fold, and into the reticulum, and had there become enveloped in mucus, and formed into a pellet) is pressed through the muscular pillars into the œsophagus, whilst, at the same time, another portion is forced through the valvular fold from the rumen, and is ready to enter the reticulum as soon as it has become relaxed.

By the contractile action of the spiral muscle of the œsophagus this pellet is conveyed into the mouth, where it is remasticated and prepared for digestion. Here I cannot but allude to the beautiful designs of nature, as manifested in the structure and functions of the rumen. I should have mentioned before, that no change takes place in the food during its stay in the rumen except maceration, accomplished by the warmth and moisture in which it lay, and the alkaline principle that was developed; and hence, that it was necessary that it should remain there some time in order to undergo that process. How has Nature provided for this? The food passes first into the left sac of the rumen, and is thence propelled into the right, which is inferiorly situated. How is it to be raised thence again? What power can throw the food from the lower into the upper stomach? The right sac is always full; rumination goes no farther than emptying the left sac; there is always plenty of food macerating there; and although no power would be able to throw the food from the lower into the upper stomach, yet when the upper one is filled as well as the lower, we can easily imagine that the muscles of the rumen are sufficiently strong to cause the food to revolve through the different compartments; and so that which had been long macerating will in its revolution pass into the upper stomach, and that which had been lately gathered, and lay at first in the upper sac, will descend into the lower one, and the process of maceration will be constantly going forward, and no food will re-ascend to the mouth for a second mastication which had not been duly prepared.

This has been proved by experiment: a sheep was kept without food for several days, and when killed the right sac of the rumen was found full.

Other experiments have proved that it is rarely that the food begins to be returned to be re-masticated in less than sixteen or eighteen hours, and that the return is not perfectly accomplished in less than double that time. It is, therefore, not the food that has been just swallowed that the cow ruminates, but that which has been macerating in the lower sac of the rumen for twenty-four hours upon the average. The singular division of the rumen into these two compartments renders it impossible for rumination to commence before both sacs are tolerably full, and

as certainly stops it when the upper sac begins to be empty, and thus secures the perfection of the maceration, and the more easy grinding down of the food under the teeth, and the subsequent extraction of all the nutritive matter.

But during all this while the food will undergo, to a considerable degree, the process of fermentation, and in that process much acid will be eliminated, and this will become a source of great irritation and annoyance. How beautiful is Nature's contrivance to prevent this, and even to extract good out of evil!

The fluid which is secreted by the rumen consists chiefly of an alkaline principle—I believe soda. This, previous to the commencement of the fermentation, combines with and dissolves certain portions of the vegetable matter contained in the stomach. It is an active and beneficial solvent. When the acid produce of fermentation begins to accumulate, it performs another office—it combines with it, and converts it into a neutral salt, and that neutral salt, once formed, is useful. It stimulates the muscular fibres of the coats of the stomach, and increases their action in hurrying the food along, in order to be discharged from the stomach. So admirable are Nature's ways!

The food is re-masticated, and returned again to the *œsophagus*; and now, either from some instinctive influence, or owing to its having assumed a more pulpy consistence, it no longer forces open the muscular pillars, but passes forward into the *manipulus*. The semi-fluid portion goes farther—it runs on immediately into the *abomasum*, while the parts that have not yielded to the macerative power of the rumen, or that have escaped the action of the grinders, are caught up between the folds of the *manipulus*, and by the united action of the muscular fibres of the leaves, and the hard prominences with which the cuticle covering the leaves is beset, they, at length, become perfectly comminuted, and then, having been reduced to a pulpy mass, they are allowed to pass into the *abomasum*.

Here it is that the food meets with the gastric juice secreted from the villous coat, and by which it is dissolved and reduced to one homogeneous mass, called *chyme*. It then passes through the *pylorus* into the *duodenum*, where it meets with the biliary and pancreatic fluids, and by their influence, and some other power, whether chemical or vital, the chymous mass is separated into the *chyle* or nutritive part, and the *fæculent*, or innutritive part. The *chyle* is absorbed by the *lacteals*, and conveyed by means of the thoracic duct into the system; the *fæculent* matter passes through the intestines, and is voided *per anum*.

MONOMANIA IN DOMESTIC ANIMALS.

By Professor RODET.

WE scarcely find any mention of insanity in the domesticated animals in the writings of modern authors, whether on agriculture, horsemanship, or veterinary medicine. This seems the more astonishing, seeing that, although the brain and its functions do not predominate in them, as in man, over the organs and functions of simple life, yet they attain a certain degree of development and perfection, and are liable to the same impressions, and changes, and diseases, and are exalted, and diminished or destroyed in the same way, although not in the same degree.

“The inferior animals” says Aygaleuq, “being, to a certain extent, endowed with the same faculties as ourselves, are susceptible, although less perfectly, of the same moral qualities. Hatred, love, fear, hope, joy, distress, courage, timidity, mildness, anger, and to which I may add, cunning, finesse, jealousy, mimicry, and many a varied passion, influence and agitate them as they do the human being. The dog is an illustration of this—the most susceptible to every impression, and approaching the nearest to man in his instincts, and in many an action that surprises the philosopher who justly appreciates it. Affection and fidelity to his master are his distinguishing characteristics: he faces every danger to save him from harm—searches unremittingly for him if he has lost him, refusing all food, and incessantly calling him; and, at length, he dies broken-hearted on the spot where his benefactor perished. Surely these actions prove that he is endowed with intelligence and with affections, which, if they do not equal ours, are of the same character.” “The influence of the passions on the inferior animals,” says the same author in another place, “is an object of consideration and of research, which has not yet occupied, as it ought, the mind of any one.”

Hurtrel d'Arboval, under the article mania, says, “It is a general chronic delirium, which either extends to numerous objects or is confined to one, or to a very small number, in which case it is called *monomania*. Animals being less subject than man to the influence of the passions which often so violently torment him, are much less exposed to mania, and are scarcely susceptible of it from any moral cause; they can only experience that species of mental alienation which arises from some malformation or alteration of the brain. To this cause must probably

be referred the stupidity which is occasionally observable in sheep; the same remark may sometimes be made of the calf, at least, so says Aygalenq. That writer relates that, at the veterinary school of Lyons, he has seen a bitch present all the characters of madness; she would suddenly fly from the person who was caressing her, and run in every direction, crying and barking, apparently without motive or cause. Mania can only occur in the brute from some mechanical cause, and in order to remove the disease, it will be necessary to take away the exciting cause. Insanity which depends on any derangement in the relative situation of the different parts of the brain is without hope of palliation or cure."

Under the article *monomania* he adds "what we have said of mania partly applies to this species of mental alienation, if the brutes are susceptible of it, and of which there is no example."

It will be seen from the different facts which I have related (see *THE VETERINARIAN* for May last, p. 268, &c.), that I have been accustomed to look at this matter in a point of view very different from that in which it has presented itself to this author, both as it regards mania and monomania in the domesticated animals. I will, however, proceed to state some new facts, which seem to me to prove unequivocally that they are subject to veritable derangements of their intellectual faculties. This inquiry is of great importance as it regards the usefulness of the horse, and the comfort and safety of the owner. It will appear, that some of these derangements of the cerebral functions are suddenly and unexpectedly developed; others, the existence of which is already known, are dangerous, because the time of their attack cannot be calculated upon or foreseen; and these derangements, when they consist in self-will, or desire to do mischief, renders the meeting, or the use of these animals, exceedingly perilous, and the more so as that peril is generally quite unexpected.

This inquiry will also be important, considering that these occasional fits of aberration constitute that important branch of veterinary jurisprudence which has relation to the habits and vices of animals. Many of these maniacal affections are intermittent. They manifest themselves at intervals more or less prolonged; and the symptoms which would indicate their existence or approach probably are not and cannot be recognized when the horse is examined for purchase. They have reference to certain situations, and certain objects alone, and which probably were designedly avoided, or otherwise absent at the time of sale. It is possible, also, that the vendor may have been ignorant of the peculiar affection to which his horse was subject;

the circumstances might not have arisen, which alone would develop the insanity, and the horse is sought to be returned for a vice which he never exhibited when in the possession of his former owner. This opens quite a new and an interesting, and a very perplexing division of veterinary jurisprudence.

I will illustrate the subject by the narration of some facts.

CASE I.

In 1806, during the campaign of Austerlitz, a Piedmontese officer possessed a beautiful, and, in other respects, a most serviceable mare, but which one peculiarity rendered, at times, exceedingly dangerous for the saddle. She had a decided aversion to *paper*, which she immediately recognized the moment she saw it, and even in the dark if one or two leaves were rubbed together. The effect produced by the sight or sound of it was so prompt and so violent, that in many cases she unhorsed her rider; and in one case, his foot being entangled in the stirrup, she dragged him a considerable way over a stony road. In other respects, this mare had not the slightest fear of objects that would terrify most horses. She regarded not the music of the band, the whistling of the balls, the roaring of the cannon, the fire of the bivouacs, or the glittering of arms. The confusion and noise of an engagement made no impression upon her; the sight of no other white object affected her; no other sound was regarded; the view or the rustling of paper alone roused her to madness.

All possible means were employed to cure her of this extraordinary and dangerous aberration, but without success; and her master was at length compelled to sell her, for his life was in continual danger.

CASE II.

A mare belonged to the Guard-Royal from 1816 to 1821. She was perfectly manageable, and betrayed no antipathy to the human being, nor to other animals, nor to horses, except they were of a light grey colour: but the moment she saw a grey horse she rushed upon it, and attacked it with the greatest fury. It was the same at all times and every where. She was all that could be wished on the parade, on the route, in the ranks, in action, and in the stable; but such was her hatred towards grey or white horses, that it was dangerous to place them in the same stable with her, at whatever distance. If she once caught a glimpse of one, whether horse or mare, she rested not until she had thrown her rider, or broken her halter, and then she

rushed on it with the greatest fury, and bit it in a thousand places. She generally, however, seized the animal by the head or by the throat, and held it so fast that she would suffocate it if it were not promptly released from her bite.

As she grew old (for she was eighteen years old in 1821), this mania was not quite removed, but it was somewhat weakened. No other body of a white colour appeared to make the least impression on her.

CASE III.

A mare, belonging to the fifth squadron of hussars, feared, on the contrary, all white inanimate objects—such as white mantles or coats, even the sleeves of shirts and chemises too much displayed, and particularly white plumes. When any of these white bodies, and especially in motion, were suddenly perceived, if they were of any magnitude, and their motion was rapid, she was in a dreadful fright, and strove to escape; but if they were of no great size, and moved more gently, she rushed furiously upon them, struck at them with her fore-feet, and endeavoured to tear them with her teeth. No other colours produced the slightest effect upon her, nor did the appearance, however sudden, of white horses or dogs of the same colour; but if a white plume waved, or a white sheet of paper floated by her, her fear or rage was ungovernable.

These three cases of singular and particular aversion, possess, in my mind, all the characters of true monomania.

Of *Delirium*, and of the acutest form, we have numerous instances in the quadruped. I need not mention the eagerness to bite displayed by the dog labouring under enteritis, as well as by him that is rabid; the cerebral disorder which induces some animals to press constantly, and unconsciously forward, as in horses labouring under vertigo; the eagerness to strike at every thing with the foot, and to rush upon it and to seize it with the teeth, observed in phrenitis, or other stages of staggers. Finally, perhaps, every acute delirium, except that of rabies, under which the animal lives only a short time, may pass into a chronic state, and produce insanity of indeterminate duration, corresponding perfectly with the insanity of the human being.

A kind of *Nostalgia* is often recognized in the quadruped, in that depression which nothing can dissipate, and that invincible aversion to food, by means of which many animals perish, who are prevented from returning to the places where they once lived. We have frequent illustration of this in the cat, and occasionally in the dog, who obstinately persist in their attempts to return to the localities to which they had been accustomed.

Of *Melancholy* and *Hypochondriasm* we have abundant

proofs. We see it in the vivid regret for the loss of his master, which induces the dog to perish with hunger, rather than forsake the grave that encloses the remains of him he once loved. Neither kind nor cruel treatment can force him from his retreat; and one idea alone occupies his mind, until he sinks under the mingled influence of famine and grief.

I may now then be permitted to repeat the question, and to submit it to the judgment of philosophic observers—Does insanity exist among the domesticated quadrupeds? We will leave it to time and experience to give a satisfactory answer.

Doctrine Physiologique.

This is a most interesting subject. Will some of our readers take it up?—ED.

EXPERIMENTS ON THE CONTAGION OF GLANDERS.

By MM. J. BEUGNOT, M.V. at Acy, and BERTHONNEAU, M.V. en chef at the Infirmary of Betz.

Is chronic glanders contagious? This is a question on which much has been written, but to which no satisfactory answer has yet been given. Some veterinary surgeons have affirmed that it is contagious, others have maintained a totally opposite opinion, and a great number are yet in doubt. This is one of those questions that cannot be resolved by any reasoning or eloquence, nor even by isolated facts. If glanders is contagious, it ought to obey the general law by which all affections of this nature are governed; it ought to be transmitted to sound animals, either by inoculating them with the matter which is supposed to be the virus, or the vehicle of the virus, of glanders, or by making them cohabit with animals that are infected. A very few facts would be decisive here; two or three cases well authenticated would convince the most incredulous, and range the whole world under the same banner. How is it that these experiments have not hitherto been made, or at least that they have only been made on animals enfeebled by age, work, or disease, and in which the development of glanders after the inoculation might be as reasonably attributed to this state of debility as to the inoculation? The reason is plain. In order that the experiments should be conclusive, it is necessary that the subjects on which they are made, should be young, strong, and in perfect health: but sub-

jects of this character cost much, and there are very few experimentalists in whom the love of science would be so strong as to lead them to run the risk of ruining themselves in the pursuit of it.

The Government alone, and which is so interested in this question, could defray the necessary expense of experimenting on a large scale; but hitherto, the Government which, on a late occasion, has not hesitated to expend some hundred thousands of franks in elucidating the question of the *curability* of glanders, has not attempted to throw the least light on the equally important one of the *contagiousness* of this disease.

Our connexion with the infirmary of Betz has given us an opportunity of making some experiments which we hope may contribute to throw some light on a subject of veterinary pathology so doubtful. We receive glandered and farcied horses belonging to the first military division. When, from a certain mode of treatment, or in process of time any of them are apparently cured, they are immediately separated from the others, and their time of quarantine or probation commences. This usually lasts during three months; and if, at the expiration of that time, they have had no relapse, and are apparently well, they are returned to their respective regiments.

All the horses that were the subjects of the following experiments had been attacked by farcy in a mild form: they had been perfectly cured, and were undergoing their periods of probation, and were in good condition, strong, and far from being old. They had never had any direct communication with glandered horses.

Experiment I.—A horse, No. 490, had been cured of farcy from the 1st of October, 1834. On the 15th of November he was inoculated on the membrane of both nostrils, and four punctures were made in each. The matter was taken from a horse glandered in the third stage of the disease, and that had been condemned for slaughter. In addition to the punctures, we rubbed the matter over nearly the whole surface of the pituitary membrane.

November 18th.—A small gland appeared under the jaw. It was moveable, and very little tender. The wounds in the nose were dark, and of a bad character.

20th.—The gland is now tender, but it continues moveable. The wounds on the pituitary membrane have an ulcerated aspect.

24th.—The gland is adherent, but the wounds have taken on a better character, and are beginning to heal.

29th.—The gland is diminished in size, and has lost both its

adhesion and its sensibility. The wounds in the nose are almost entirely healed.

Dec. 3d.—There is not the slightest trace of gland or wound.

During the remainder of the month nothing particular occurred. On the 1st of January the patient was sent with other horses that had been cured of farcy to undergo an additional probation; and on the 1st of March was returned to his regiment.

Experiment II.—Another horse, No. 1040, was inoculated at the same time with the same matter. The result was the same, except that three glands appeared under the jaw, which were large, tender, and adherent, and which all disappeared with the wounds on the pituitary membrane in the early part of December. On the 1st of March, 1835, there was not the slightest trace of farcy or glanders.

Experiment III.—A pledget of tow, well soaked in the matter discharged from the nostrils of a horse labouring under chronic glanders of the third degree, was inserted into the sub-cutaneous cellular tissue of the neck of the horse, No. 841 (Nov. the 15th, 1834), and kept there by means of two or three sutures. No effect whatever was produced, and the horse was returned to his former situation on the 1st of January.

Experiment IV.—Two spoonfuls of the discharge from a horse labouring under glanders in the third degree were mingled with a little warm water, and slowly injected into the left jugular vein of the horse marked 433. Six weeks having passed, and no alteration having taken place in the apparent health of the animal, he was returned to his former situation. He has since been examined several times, but no change has taken place in him.

Experiment V.—This was almost a repetition of the first experiment, except that the matter with which the pituitary membrane was inoculated was taken from a horse (No. 824) in the second stage*. Nine days afterwards two glands were observed below the jaw, large, adherent, and tender. These glands, however, soon began to diminish, and, at length, disappeared, about the time that the wounds in the nose healed, and no untoward symptom afterwards appeared.

Experiment VI.—A pledget of tow moistened with the discharge obtained during the second stage of glanders was intro-

* The first stage of the disease includes the gradual advance of the malady from suspicion to certainty, and before there is any determinate constitutional affection. The second stage is when glanders is sufficiently developed, but no ulcerations have appeared. The third stage commences with the appearance of the chancres.—EDIT.

duced under the sub-cutaneous cellular tissue of the neck. Six days afterwards two little glands, slightly sensitive and slightly adherent, were produced, but they soon disappeared, and did not return.

Experiment VII.—Injection into the jugular of matter taken in the second stage of the disease. Three days after the injection a large swelling, of a gangrenous nature, developed itself in the upper part of the bosom; it rapidly extended up the neck, accompanied by evident symptoms of adynamia, and destroyed the horse sixty hours after its first appearance. Examination, twelve hours after death, shewed all the characteristics of gangrene and alteration of the blood. It acted in the same manner as other fluids in a state of putrefaction.

Experiment VIII.—Two sound horses, Nos. 413 and 790, were placed between two horses glandered in the second degree, and with abundant sanious discharge. They all fed together, they were taken care of by the same men, and dressed with the same instruments. They remained together from the 15th of November to the 1st of January without any result. Two months after this they were in perfect health.

We should have instituted many other experiments tending to the same point, but we received orders to discontinue our labours.

Setting out of the question some appearances in the horses inoculated in the pituitary membrane, and which at first made us fear that contagion had taken place, all these experiments have had only a negative result; and the conclusions against the contagiousness of glanders acquire additional probability, when it is recollected that the animals on which we experimented were those that seemed to be in a situation most favourable for being affected by this disease; for they had had farcy, and they had been debilitated by the regimen to which they had been submitted at Betz, and which was every thing but of a tonic nature.

We should, perhaps, add another fact, not less conclusive. The infirmary at Betz generally contains about 400 horses labouring under different stages of glanders. The infirmary is but a little way removed from several small farms, and it is close to one of them. Our horses are continually in contact with those of the neighbouring farmers. In the two years that this infirmary has existed there has not been a case of glanders within a league of it: would this have happened if the disease had been contagious?

We presume not to force upon others the opinion at which we have arrived. The contagious nature of glanders is too deeply

rooted in many minds for facts like those we have stated to destroy a belief in it; nevertheless, we do hope that our experiments may contribute, in some degree, to the elucidation of this great problem: but should any one ask us, *Is chronic glanders contagious?* we should not hesitate to reply, No!!

Recueil de Méd. Vet., Mai 1835.

ON BRONCHITIS IN CATTLE.

By Mr. MEYER, Sen., V.S., Newcastle-under-Line.

Messieurs Editeurs,

As many of your contributors will, no doubt, feel interested in having the ultimate results attendant upon the treatment of those cases of bronchitis noticed in a former number of your journal (vol. vii, p. 585), I have much pleasure in forwarding the particulars without further preface, except that I would apologize to Mr. Youatt for not having noticed, in my last paper, his article upon bronchitis in that valuable publication, *The Farmer's Series*; it did not meet my eye till some time afterwards: had I seen it, it would have superseded much that mine contained. Having thus made the *amende honorable*, I shall proceed:—

The little patient, upon which the operation of tracheotomy had been performed, recovered much of its condition, spirits, and appetite; but as the wound in the trachea gradually healed up, it pined away again, and ultimately sunk, although the Indian pink, conjoined with saline medicines and fumigations, were followed up to the last. On a post-mortem examination, I found not more than half the quantity of worms as in the first case, many of them having, no doubt, been expelled or crept out through the opening into the trachea. The anterior and middle portions of the lungs were of a bright vermilion hue, shading gradually off to their natural colour towards their posterior portion. The lining membrane of the bronchi and air-cells was much inflamed, but not so that of the trachea.

I consider the operation of tracheotomy, in extreme cases, as a most valuable aid; but it should be done low down, as it affords, in the first place, greater facility for the expulsion of worms; secondly, by admitting currents of cold air immediately upon their nidus, it renders their habitation less tenable. Thirdly, it allows you, as the wound closes up, the opportunity of operating again above. The operation is of the highest importance too in taking off the spasmodic effect produced upon the laryngeal muscles from the sympathetic irritation and effects of the worms, occasioning asphyxia to a great degree, but which

is immediately removed by the operation ; the animal breathing afterwards comparatively easy.

There were now five other calves left, nearly of the same age, and which had been running out along with the others ever since they were weaned : these were labouring under the same affection. Finding the medical treatment adopted in the last case did not succeed, I determined upon giving the turpentine a fair trial ; for which purpose I combined some *ol. terebinthinæ* with *oleum commune* ; but the farmer felt so prejudiced against using any strong medicines, that he would not give it, for he had not only administered, before he applied to me, tar balls, but the strong remedies recommended by Clater, under the effects of which the calves were fast sinking. I therefore advised him to try a remedy my father used to employ with success, consisting of half a pint of lime-water every morning to each calf, and a table-spoonful of common salt, dissolved in half a pint of water, every afternoon, keeping them out at grass, and varying their pasture from time to time. This plan of treatment was regularly pursued for some time, and succeeded ; the remaining calves were soon in perfect health, and suffered very little in their growth ; in fact, a stranger not knowing the circumstance would not suppose they had laboured under any disease. Where lime-water cannot be procured conveniently, I would recommend half a drachm of *aqua kali pur.* in half a pint of linseed tea as a substitute. Common salt is a valuable medicine, either as a preventive to the development of worms, or as a specific against some of the species, as the fluke-worm, &c. : it is particularly obnoxious to them either in or out of the body.

There is little doubt that it must be transmitted along the absorbents, and pass through the discerning vessels with the proximate elements of which it is composed, in as intimate a union as when taken into the stomach ; for it is a well-known fact, that bodies taken into that viscus will become absorbed into the circulation, and pass apparently unaltered through the discerning vessels of some of the glands of the body. If the secretions formed by the mucous membrane of the bronchi become impregnated with the muriate of soda, it would render the worms sickly, and occasion them to quit their hold, in consequence of which they would be easily expelled through the larynx and mouth. Some individuals are in the habit of giving a table-spoonful of powdered savin in half a pint of milk, daily, with tolerable success. Others dress the inside of the nostrils with oil of savin, and administer a small portion of the same daily, diluted with vinegar. An old cowleech told me he was always successful with the oil of savin. Some extol *asafœtida* rubbed down with

vinegar. In consequence of the inflammation of the bronchial tubes and lungs, the administration of turpentine, or other strong anthelmintics, is of dubious policy; for, whilst you are striving to steer clear of Scylla you may fall into Charybdis: but it is the duty of the veterinary surgeon to watch narrowly the progress of the symptoms, and take his tack accordingly. It appears, upon inquiry into the history of this singular and fatal affection, that where calves are of strong and vigorous constitutions, so as to wrestle with the affection till cold weather sets in, they will spontaneously recover.

It occurs in all situations, and upon every description of soil; but is most frequently met with upon low marshy districts, particularly where the water percolates through a peat stratum of soil. Farms situated upon marly strata are the least subject to it.

It prevails to a great extent during very dry years, when the pit water upon different farms becomes nearly dried up, and rendered putrid and full of animalculæ; as was the case upon that particular farm where the above cases occurred: on this account I should strongly recommend the flinging into the pits, from time to time, some quick lime. As cattle are much addicted to go into the water during warm weather, and, remaining there for some time, voiding their dung and urine, our worthy Professor at the Veterinary College suggested the idea of the ova being furnished by this means, which, *a priori*, would appear very probable, as the worms belong to the species of intestinal worms, which are found deposited in all situations of the animal body. A friend of mine, however, furnished me with a fact which militates against this idea. He has two farms, one situated high and upon a calcareous marly stratum, where the disease is seldom or never known; the other lies low, and has a large piece of ground, into which he turns his young colts and sheep, but which possesses a peat bottom. On one occasion, although warned by a neighbour as to the consequences, he turned his young rearing calves into it, every one of which took the hoose, but by immediately sending them to their old quarters they soon recovered. He stated, moreover, that his upper farm had only pit water upon it, which, although in dry weather the ponds were nearly dried up, and rendered foul by the cattle standing in them dunging and staling, yet the beasts remained free from the hoose.

From the little that is known of the history of these parasitical animals, it is impossible to say whether they are taken up in their state of ova from the fluids received into the intestines, or whether the ova are deposited within the nostrils, and there hatched to that point when their instinctive propensities develop themselves so as to guide them to that situation where

they are found and brought to maturity. I myself consider that the vegetable matter and soil through which the water filters furnishes the ova, which, being taken into the stomach and intestines, and being smaller than the globules of which either the chyle or blood is composed, pass easily through the absorbents, and even the secerning vessels of the glands and of mucous or even serous surfaces. This appears to be the only way in which we can rationally account for their being found in the various parts of the body in which they are met. I can readily conceive it possible for the ova to be transmitted through every series of ramifying vessels in the body, and yet not become developed until accidental circumstances turn up, such as a diseased gland, so as to favour the unfolding of that vital and vivifying principle inherent in seed of every kind.

In my last paper these worms are stated to belong to the strongylus species; but upon examining them more minutely, I consider them belonging to the variety called ununaria, the characters of which are, body filiform, elastic, head with membranous angular lips; the tail of the female needle-shaped, and that of the male, armed with two hooks encased in a pellucid vesicle.

The characters of the strongylus species are, body round, long, the fore part globular and truncate, with a circular aperture, fringed at the margin; the hind part of the male hooded, that of the female pointed.

P.S. I forgot to state, that my son has met with these species of worms in the bronchial tubes and air-cells of an ass, whilst dissecting at college; and what was very singular, there were no urgent symptoms before the animal was killed, to lead to any suspicion of their existence.

THE VETERINARIAN, JULY 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ANONYMOUS CONTRIBUTIONS.

DURING the last month no fewer than seven anonymous contributions have been laid on our table. To the writers of some of them we are grateful; but the obligation would have been much increased had we been permitted to know to whom

we are indebted. Verax will accept our warmest thanks—we previously knew part, we guessed at the rest, and, when the fitting time comes, he will see that we were not quite idle. Two valuable cases we cannot insert without the requisite authentication; and two attacks on contributors to our Journal, we should despise ourselves if we did insert; for we are perfectly assured that neither of the writers would, in his own person, have dared to adopt the tone of rude and ungentlemanly sarcasm which they have anonymously employed.

We had intended to have devoted a few pages to the analysis of this detestable mode of controversy; but we find in a late periodical, and from the pen of that original, eloquent, and profound writer, John Galt, so complete and unanswerable an exposure of it, that we gladly transcribe his observations.

“The daily newspapers are the most obvious objects of our animadversion, and, perhaps, they are so necessarily; for however honourable and candid the conductors may be individually, it is not to be denied that they are constantly in the practice of committing such gross libels as expose them to a greater number of prosecutions than any other class in the kingdom. Without, therefore, breaking any rule of charity, it may be assumed that the editors of the daily newspapers are prone to this offence: we do not say that they are naturally more so than the generality of men, but by the rule by which offences are estimated, viz. the number of convictions in proportion to the whole number of the accused, we say that this body of persons is, as far as libels are criminal, culprits in the highest degree. No doubt, this arises from their participation in the bluntness of feeling that disgraces the public, and the impunity with which malice may anonymously gratify its snakes.

“They are also led on by the warmth of party animosity to treat their adversaries with a degree of contumely, which they no more durst in ordinary company than play the sycophant to a tiger. They ever forget, that the mischief of their unguarded pen is done before the victim can possibly hear of it. Moreover, too, in those journals which are declaredly party, their columns are open to all of that party; and, as the law stands at present, the

ruffian that attempts to stab character in the dark, is permitted to skulk off from his crime ; and the man whom he has wounded is obliged either to suffer on or to prosecute one whom he knows to be ignorant of the criminal deed, and whose avocations are of such exigency that he cannot give that care to a guilty paragraph which he otherwise would do, especially when the venom of it is congenial to his own party virulence.

“ If the case were properly estimated, that is to say, the hurry properly considered, and the seductive influence of party spirit, much might be said for the errors of the newspapers ; for of all the productions of the press, they are the most liable to be imposed upon, and, at the same time, the readiest vehicles of malignity. Is there no remedy for this ?

“ Next to the daily papers, the ephemeral class of periodicals deserve castigation ; they have not the apology to plead which the editors of the former undoubtedly have, nor, perhaps, are they so much to blame for the commission of the offence. But are their editors a whit better than those of the daily journals ? It will at once be answered in the negative. It may be said, that they are less delinquents, because they belong to a class in which the criminals do not bear so heavy a proportion to the whole as in the other ; but if the matter were rightly considered, the guilt of a libel is grosser in them, when proven, than it is in the editors of the daily papers, for they have more time to meditate over an objectionable paragraph before they allow it to be inserted in their publications. We know, however, from human nature, that the editors of a weekly paper are just as much pressed for time as those of quicker preparation.

“ After the weekly publications come the monthly. Criminal libels in them are but seldom detected, because, for the most part, few papers are published in them of which the authors are unknown—a clear proof that the being known is itself a great check on the indulgence of malice ; but although they are comparatively, in a great degree, beyond the reach of the law, so as to be amenable to punishment, they are yet not altogether blameless. By them the minds of many individuals are often exco-riated : we would ask from what the right is derived by which

one man makes another gratuitously the butt of his satire and ridicule ?

“ There is another point of view which we would take of the monthly publications, and which, we think, has some weight in the question : they furnish their victims with a motive to sequester themselves from the eye of the public by the very nature of the castigations they inflict. No man likes to hear his taste or learning cried down or laughed at ; and the critics have contrived to practise that malignity with impunity, by the light in which they have shewn ‘ poor devil authors.’ This is very disreputable, when we come to consider it properly. In the first place, it argues the possession of a mean and cowardly spirit to stab in the dark ; for critics who do not give their names with their strictures are of this description ; and it is a foul appetite that delights to feed on faults.

“ In matters of abstract reasoning, a reviewer may be anonymous with great propriety ; he has then not to do with men but with understandings, and he offers for consideration thoughts and inferences, which are either true or false. If he does so *bona fide*, there can exist no reason why the author should be treated with contumely ; and if he be ironical, there is no reason why the critic should quit the matter of the book he is reviewing, and turn upon the author. It is bad taste to do so, and no gentleman will allow himself to practise it ; no well-regulated mind will ever look beyond the boards of the work for materials to barb a sarcasm with : but a corrupt and foul taste has been allowed to creep into criticism. Writers in that walk of literature no longer endeavour to give a true estimate of the work which they review, but seek to make it a peg to hang their own wit and cleverness upon. This vile custom requires only to be stated to make those who are basest in the practice ashamed of themselves.

“ No man, unless he is very obviously actuated by an unworthy motive, should be considered as under the influence of such : politeness dictates a different rule from the one in use. Nothing can be more odious to a correct moral apprehension than assigning baseness to those who are, perhaps, governed by the very highest feelings ; and yet it is a common practice : indeed, we

are not aware at this moment that there has been, in a long course of years, any appreciation of it by reviewers.

“It may be said, that men cannot tell what others’ motives than those of vanity may be; and the critics are justified in what they do. This would be allowed, if they at any time ascribed good motives; but that they never do: they adopt the rule of statesmen, and consider every one as incited by bad or sordid springs of action. The true way would be, not to assign any motives at all; to consider merely what the book contains, and to regard the name of the author on the title-page as only a certificate of his being responsible personally for what he has said. In a word, though the art of criticism has, of late years, received many improvements, it has yet to learn that it may forego many things. Undoubtedly, the periodical press has been greatly improved; a more generous tone of knowledge and taste has been infused into it; but what we complain of is, that, with all its improvements, it retains the worst alloy with which it was ever disgraced. We have read articles in which others were spoken of that filled us with inextinguishable disgust; and we have never been able to understand why it is that honourable men conceal themselves in holes and corners, and deal thence irremediable blows. The same rule that regulates the behaviour of individuals in private society should be allowed a predominance in transactions before the public; we ask no more than this, and we have a right to ask it: but it is a blot on the age that we skulk from this, and that while the manners of our personal intercourse are improved, our literary intercourse is,

“Foul with many a stain.”

A rather ludicrous instance of the scrapes of a lighter kind into which editors may be led by the admission of anonymous communications on scientific subjects, occurred a little while ago. We received an account of “a patient which, after performing his daily labour for several years without disorder of any kind, had suddenly fallen lame. After trying several applications which were of no avail, the veterinary surgeon determined to use the firing-iron, it being thought that this valuable counter-

irritant might produce the desired effect. It was found, however, that the patient became worse after the operation ; and, as a last resource, he resolved to try the effects of a seton. This was supposed to have acted as a charm. The patient was shortly pronounced perfectly cured, and is now performing his usual labour with all his usual activity, and without the slightest appearance of lameness.

“ P. J.”

We did not choose to admit this plain slap at the advocates of setoning, partly because we could not see the wit and point of it, but principally because it was anonymous ; and we stated so in our number for May. Otherwise we too, perhaps, in the anxious desire to do justice to our subject, might have been induced to say that “ it would have been a great deal more satisfactory to the public, and also to the veterinary profession, if he (P. J.) had stated the specific NATURE and *seat of the said lameness of ‘the old walking stick’* (for such it turns out was the patient of this wag), and also what treatment was pursued previous to the application of the firing-iron to ‘ *the old walking stick,*’ and that then we should have been enabled to form an opinion as to which of the modes of treatment it was that the (horse?—no!) ‘ *old walking stick*’ owed its recovery ;” and we should have stated our wish “ to extend our inquiries into the nature and treatment of all diseases incident to (domesticated animals?—no!) ‘ *old walking sticks of every description.*’ ” We might have affirmed that, “ firing is, in many instances, a valuable remedy for diseases brought on in ‘ *old walking sticks*’ by over-exertion ; and that so likewise is a seton when applied to the ‘ *old walking stick*’ in more recent cases, and not allowed to remain too long.” We might probably have avowed our intention, “ at a future period, to take a comparative view of the merits and demerits of these different modes of treating diseases of ‘ *old walking sticks* ;’ and, finally, in our zeal for the respectability of our profession, we might have hinted our suspicion that, “ the communication of P. J. was a puff, and that its object was, to vaunt his superior science in the treatment of *old walking sticks.*”

All this a contemporary has done. It is a good joke, and he

will laugh at it as heartily as we did. It is one of the least annoying consequences of anonymous contributions,—may he never experience worse !

Y.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Bridgewater Treatises, No. 4. The Hand—its Mechanism and Vital Endowments, as evincing Design.

By Sir C. BELL, K.G.H., &c. &c.

IF we select any object from the whole extent of animated nature, and contemplate it fully and in all its bearings, we shall certainly come to this conclusion, that there is *design* in the mechanical construction, benevolence in the endowments of the living properties, and that good, on the whole, is the result. We shall perceive that the sensibilities of the body have a relation to the qualities of things external, and that delicacy of texture is, therefore, a necessary part of its constitution. Wonderful, and exquisitely constructed, as the mechanical appliances are for the protection of this delicate structure, they are altogether insufficient; and a protection of a very different kind, which shall animate the body to the utmost exertion, is requisite for safety. Pain, whilst it is a necessary contrast to its opposite, pleasure, is the great safeguard of the frame; and finally, as to man, we are led to infer that the pains and pleasures of mere bodily sense (with yet more benevolent intention) carry us onward, through the development and improvement of the mind, to higher aspirations.

Such is the course of reasoning which the talented author has followed, in contrasting the hand and arm with the corresponding parts of living creatures through all the divisions of the chain of vertebrated animals. He has considered the subject comparatively, and exhibits, in the first place, a view of the bones of the arm, descending from the human hand to the fin of the fish. In the next place, he reviews the actions of the muscles of the arm and hand; then, proceeding to the *vital properties*, he advances to the subject of *sensibility*, leading to that of *touch*: after which he shews the necessity of combining the muscular

action with the exercise of the senses, and especially with that of touch, to constitute in the hand what has been called the geometrical sense.

He describes the organ of touch, the cuticle, and skin; arranges the nerves of the hand, according to their functions; and then inquires into the correspondence between the capacities and endowments of the mind in comparison with the external organs, and more particularly with the properties of the hand; and concludes by shewing that animals have been created with a reference to the globe they inhabit; that all their endowments and various organization bear a relation to their state of existence, and to the elements around them; that there is a plan universal, extending through all animated nature, and which has prevailed in the earliest condition of the world; and that, finally, in the most minute or most comprehensive study of these things, we everywhere see prospective design.

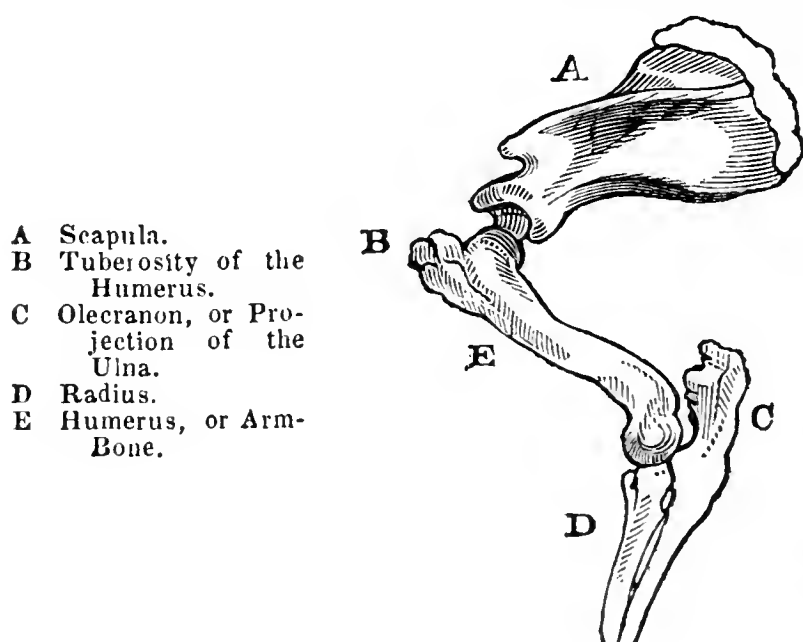
Having furnished our readers with the outline, we shall proceed to give them a view of some of the shade and colouring of the work. The field which the subject opens to us is unbounded: we shall give the following description of the bones of the shoulder of the horse as an example, and we have selected this part as being one of interest to us veterinarians.

“If we attend to the scapula, or shoulder-blade, we shall better understand the influence of the bones of the shoulder on the motions and speed of animals. Some interest is attached to the position of the scapula in the horse. The horse possesses no clavicle, and the connexion between the extremity and the trunk is solely through muscles. That muscle called *serratus magnus*, which is a large one in man, is particularly powerful in the horse; for the weight of the trunk hangs upon this muscle. In the horse, as in most quadrupeds, the speed results from the strength of the loins and hinder extremities, for it is the muscles there which propel the animal. But were the anterior extremities joined to the trunk firmly and by bone, they could not withstand the shock from the descent of the whole weight thrown forwards: even though they were as powerful as the posterior extremities, they would suffer fracture or dislocation. We cannot but admire, therefore, the provision in all quadrupeds whose speed is great, and whose spring is extensive, that from the structure of their bones they have an elastic resistance, by which the shock of descending is diminished.

“If we observe the bones of the anterior extremity of the horse, we shall see that the scapula is oblique to the chest; the humerus oblique to the scapula; and the bones of the fore-arm at an angle with the humerus. Were these bones connected together

in a straight line, end to end, the shock of alighting would be conveyed through a solid column, and the bones of the foot or the joints would suffer from the concussion. When the rider is thrown forwards on his hands, and more certainly when he is pitched on his shoulder, the collar-bone is broken, because, in man, the bone forms a link of connexion between the shoulder and the trunk so as to receive the whole shock; and the same would happen in the horse, the stag, and all quadrupeds of great strength and swiftness, were not the scapula sustained by muscles, and not by bone, and did not the bones recoil and fold up.

“The horse-jockey runs his hand down the horse’s neck in a knowing way, and says, ‘this horse has got a heavy shoulder; he is a slow horse.’ He is right, but he does not understand the matter: it is not possible that the shoulder can be too much loaded with muscle, for muscle is the source of motion, and bestows power. What the jockey feels, and forms his judgment on, is the abrupt transition from the neck to the shoulder, which, in a horse for the turf, ought to be a smooth undulating surface. This abruptness or prominence of the shoulder is a consequence of the upright position of the scapula; the sloping and light shoulder results from its obliquity. An upright shoulder is a mark of a stumbling horse: it does not revolve easily to throw forward the foot. Much of the strength, if not the freedom and rapidity of motion, of a limb will depend on the angle at which the bones lie to each other; for this mainly affects the insertion, and, consequently, the power of the muscles. We know, and may every moment feel, that when the arm is extended, we possess little power in bending it; but as we bend it the power is increased, which is owing to the change in the direction of the force acting upon the bone, or, in other words, because the tendon becomes more perpendicular to the lever.



“A scapula, which inclines obliquely backwards, increases the angle at which it lies with the humerus or arm-bone, and, consequently, improves the effect of those muscles which pass from it to that bone.

“We have only to turn to the skeleton of the elephant, the ox, the elk, or the stag, to see the confirmation of this principle. When the scapula is oblique, the *serratus muscle*, which passes from the ribs to its uppermost part, has more power in rolling it. When it lies at right angles with the humerus, the muscles which are attached to the latter [at B] act with more effect. And on the same principle, by the oblique position of the humerus, and, consequently, its obliquity in reference to the radius and ulna, the two bones of the fore-arm, the power of the muscle, inserted [at C] into the olecranon, is increased. On the whole, both power and elasticity are gained by this position of the superior bones of the fore-leg. It gives to the animal that springs a larger stretch in throwing himself forwards, and security in a soft descent of his weight.”

Sir C. Bell has introduced sketches from the skeletons of the elephant and camel, plainly shewing that the leg of the former was obviously built for the purpose of sustaining the huge bulk of the animal; whilst, in the camel, there is a perfect contrast. We likewise perceive, from the comparison of these sketches, that, if the humerus is placed obliquely, it must necessarily be short, otherwise it would throw the leg too far back, and make the head and neck project. It is one of the “points” of a horse to have the humerus short: and not only have all animals of speed this character, but birds of long flight, as the swallow, have short humeri.

We are almost ashamed to copy more from this interesting volume; but, bee-hunters as we are, we shall again have recourse to it for the next number of *THE VETERINARIAN*; and shall then leave lots of its honey for our readers to extract for their own enjoyment. They may collect sweets from every chapter.

K.

Traité de L'Age du CHEVAL, par feu N. F. GIRARD, Troisième Edition, publiée avec des changements, et augmentée de l'Age du BŒUF, du MOUTON, du CHIEN, et du COCHON, par J. GIRARD.

THE Treatise on the Age of the Horse is a standard work among the French veterinarians, and the translation of it by Mr. Ganley occupies a place in the library of most English practitioners. It is an excellent book, and had it been the only proof we possess of the zeal and the talent of young Girard, we

should have had sufficient reason to lament his untimely death. This third edition is by the father, who still survives, an ornament to our profession. He tells us that, at the urgent solicitation of his friends, he has been induced to reprint this little work, one of the first essays of an only son, of whom he had cherished many a fond hope, and who, occupying, and with so much honour to himself and advantage to the art a professor's chair at Alfort at an unparalleled early age, was more than realizing every wish.

While the son had been preparing this elucidation of the age of our chief patient, the father was busily employed in collecting specimens which might elucidate that of the other objects of the veterinarian's care. During the political troubles of 1814, these were all dispersed or destroyed. The labours of the son, therefore, appeared alone. Twenty years have now passed, and the father has the pleasure—a deeply cherished, although a melancholy one—of laying before the public a complete work on an important subject, the age of domesticated animals, the joint production of himself and one whom he loved.

Few additions are made to the treatise on the age of the horse. The first *exposé* had been deeply studied and accurately made, and admitted of little amendment. M. Girard has, however, given in the preface a useful enumeration of the characteristics of certain ages, to which the attention of the examiner is to be directed when the appearance of the teeth is not conclusive: he also gives a very accurate description of the different direction which the permanent incisor teeth take when the temporary ones have been forcibly removed before their time; he communicates some novel information with respect to the depth of the depression in the incisor teeth, differing more in the different teeth of the same horse than many would probably suppose, but that difference rarely varying in the same horse, or in horses generally, and affording no contemptible auxiliary in ascertaining the age, or detecting imposition; and he states some interesting facts as to the influence of climate or temperature in hastening or retarding the change of the teeth. In general, however, the additions of the father are in the form of notes; and he seems to feel a pride, for which we can readily forgive him, and which the merit of the work justifies, to leaving the treatise of his son on the age of the horse pure and intact.

His labours are directed to the completion of the subject as it regards the other animals. We trace the natural, pleasing aim, to make the work such as he and his son had at first designed it to be—to fill up the plan which they had traced out together in years long gone by. It is an important subject on which he

treats; it is one almost new in veterinary literature; some portions of the work are perfectly new; it is most correctly and scientifically executed; and the circumstances at which we have hinted, and of which the father speaks shortly but feelingly, give an increased value, a kind of charm to the whole.

Those of our readers who understand the French language will lose no time in making a most acceptable addition to their library. For the sake of the English reader, we will extract the account of the teeth of the dog and the hog, as indicating the age of these animals. The writings of no English author contain satisfactory information on these points, not even excepting the very best of them, composed by Mr. Blaine. Of the determination of the age of cattle and sheep by the inspection of the teeth, something has appeared in the "Farmer's Series;" to the author of which it is gratifying to observe how closely, without the possibility of intercommunication, or the knowledge of each other's writings, the French and English works coincide. They both drew from nature.

The full-grown dog, says M. Girard, has forty-two teeth—twenty in the upper, and twenty-two in the lower jaw; the latter having two small supplementary molars. All the teeth, with the exception of the tushes, are provided with a neck, covered by the gum, and separating the body of the tooth from the root. The teeth are pointed, and disposed so as to tear and crush the food on which, in a state of nature, the dog lives. They are of a moderate size, compared with those of other animals, and are subject to little loss of substance compared with the teeth of the monodactyle. In all of them, however, there is some alteration of form and substance, both in the incisors and the tushes; but this depends so much on the kind of food on which the animal lives, and the consequent use of the teeth, that the indication of the age by the altered appearance of the mouth is not to be depended upon after the animal is about four years old.

The incisor teeth are six in number in each jaw; they are placed opposite to each other. In the lower jaw, the pincers or central teeth are always the largest and the strongest, the middle teeth somewhat less, and the corner teeth the smallest and the weakest. In the upper jaw, however, the corner teeth are much larger than the middle ones; they are farther apart from their neighbours, and they terminate in a conical point, somewhat curved inwards and backwards. By degrees, they assume likewise an angular form, for they press and rub against the inferior tushes.

As long as the teeth of the full-grown dog are whole, and not injured by use, they have a beautiful appearance ; their colour is perfectly white. Their surface presents, as in the incisors of the ruminants, an anterior or cutting edge, and a hollow or depression within. This edge or border is toothed ; it is divided into three lobes, the central one—the largest and the most projecting—forming the summit or point of the tooth. The two lateral lobes have the appearance of little notches cut on either side of the principal lobe ; the internal notch is the least distinct, particularly in the teeth of small dogs. This form of the dental edge constitutes what is commonly called the *fleur-de-lis*, and which is gradually effaced by the wearing down of the teeth. The depression, or hollow, like that in the incisor teeth of the ox, faces the cavity of the mouth ; it occupies the whole of the internal surface of the tooth, and is as regular and complete as if it had been formed by a gouge. Laterally, and by the side of the neck of the tooth, it has a projecting edge, from which the lateral lobes are formed and cut.

The root of the incisor teeth is flatted on its sides, and bent somewhat backward. While the tooth is young, its root presents a large and deep cavity, which encloses a pulpy substance ; but this is gradually contracted as the age of the dog increases ; and at length is diminished to a little round canal, which is prolonged into the interior of the tooth.

The temporary and permanent teeth differ little except in size. The milk teeth are the smallest, the whitest, and the sharpest ; but they continue only a little while after the birth : they fall before the appearance of their successors, and several days intervene between the fall of the first and the protrusion of the second set.

The tushes or true canine teeth are four in number—two in each jaw. They are the instruments by means of which the animal most readily bites, seizes his prey, tears it, and draws it into the mouth. They are larger in the upper than in the lower jaw. They sometimes acquire a great size, and they are subject to the same alterations, and take on nearly the same form as those in the horse. They are of a pyramidal shape, curving inwards and backwards, terminating in a point of considerable sharpness ; presenting, on their internal face, a depression little different from that in the incisors, and surrounded, like them, by a projecting edge. The upper tush is nearer to the molars than the incisors, and, as it grows, it passes behind the lower one. This last, fixed nearly at the corner of the lower jaw, rubs against the posterior face of the corner tooth, or little tush

as it may be called, of the upper jaw. When the mouth is shut, the inferior tush passes between the two in the upper jaw ; it lies upon them, and rubs against them, and particularly against the corner tooth, or incisor tush. This remarkable overlying of the teeth well explains the manner in which the dog lacerates his prey when he shakes and drags it, after having penetrated it with his tushes. It is certain that these are the principal instruments of mischief, for deprived of them, the bite of the dog is comparatively harmless. Therefore it is that shepherds file down or often extract the tushes of their dogs, and, after that, the sheep are rarely or never seriously injured. Sometimes, in old dogs, the smaller upper tushes are bent backwards, and interfere materially with the motion of the lower jaw, and it is found to be necessary to file down or to pull out the crooked teeth.

The milk pincers and tushes pierce the gums before or very shortly after the birth, and those in the upper jaw a little precede the lower ones. These temporary teeth are very white, small, and pointed : they protrude very rapidly, become in a short time true fleurs-de-lis, and then speedily detach themselves and are gone. The period of the appearance of the permanent teeth differs in different dogs. It is earliest in large dogs. The mastiff has his adult teeth complete when he is four or five months old—the teething of the spaniel is not always over until he is seven or eight. The incisor teeth first shew themselves in the form of sharp points, at some distance from each other, and they do not assume the form of the fleur-de-lis until they have acquired a certain length. The reason of this is plain. In herbivorous animals the permanent incisors do not appear until the animal has nearly attained his full growth ; but the milk teeth of the dog endure only a short time, because in a state of nature, and of servitude too, stronger instruments become necessary to him.

Of the permanent teeth the pincers always appear first, but they precede the middle teeth only a few days. The corner teeth appear about the fifth month, and the tushes at the same time, or a few days before them. All the teeth preserve their freshness and their whiteness until the animal is twenty months or two years old, when the pincers begin to be a little worn and to have their colour tarnished. The first marks of change appear in the pincers of the lower jaw—next in the middle teeth of the same jaw, and then in the pincers of the upper jaw. The tushes do not generally begin to be rounded until all the incisors are more or less changed.

The change of the incisor teeth consists in the gradual effacement of the fleur-de-lis, or, in other words, the wearing down of

the central lobe to a level with the lateral ones. The change is quickened or retarded, or affects a smaller or greater number of the teeth, according to the nature of the food of the dog. The dogs that are fed on meat or bones necessarily use their teeth more than others that live on bread or broth. The wearing down of the teeth follows the same order as their appearance, and occurs sooner in the larger than the smaller dog. It should be also recollected, that in gnawing a bone, or violently shaking and tearing his prey, the teeth of the dog are subject to be broken or torn out. The wearing commences on the anterior border of the tooth, and gradually spreads over the external face of it.

These circumstances, of continual occurrence, often render it difficult, or almost impossible, to determine the age of the dog with any considerable degree of accuracy; and it is not surprising that some should have affirmed that there is no sure guide after the animal is three years old. It is, in fact, certain that large dogs, fed on meat and bones, always appear older than they really are—that at two years old they sometimes have their pincers and their middle teeth with a perfectly flat surface, whereas this should not occur until they are from two and a half to three years old—consequently, the animal has apparently advanced in age from six to ten months, and can only be judged of by the freshness of his tushes.

We have duly appreciated all the more or less frequent variations in the change of the teeth, and are inclined to think that there are indications that may be depended upon beyond the age of three years. The marks indicative of the current year are always less apparent and constant than those which, in the usual course, belong to the preceding year. The natural characters of a three year-old mouth are always more distinct, and are found in a greater number of animals than those of a four-year-old one. Hence it results that the difficulties increase with each succeeding year, and, after a certain period, render it impossible to determine the age at all.

The flattening of the cutting edge of the pincers of the upper jaw is not usually affected until the pincers and the middle teeth of the lower jaw have lost their fleurs-de-lis, and that is, naturally, at about three years old.

In the usual order of things, the pincers of the lower jaw begin to be worn when the dog is between fifteen or twenty months—or at sixteen months, perhaps, in large dogs, and between twenty and twenty-two months in smaller dogs.

Between two years and a half and three years, the middle incisors in the lower jaw undergo the same change.

The pincers of the upper jaw cease to be fleurs-de-lis, and their upper edge is levelled, at between three and four years old—varying according to the size of the dog.

The central lobe of the corner teeth of the lower jaw disappears about the same time, or a little after, that is to say, at four years.

The middle teeth of the upper jaw experience the same process at between four and five years old, varying with the size of the dog. At about the same period, the lower incisors begin to be foul, and black, and somewhat deteriorated. The animal usually has some of these teeth broken or wanting.

After five years old, the indications of age are not to be depended upon, and the examiner can only approximate to it.

In most dogs the superior corner teeth or little tushes begin to become rounded at six years old; but this wearing of them is not sufficiently regular or constant to be depended upon, as a certain indication of the age: and even the flattening of them, which takes place sooner or later, is too vague and too variable to serve as a chronometer of the life of the dog.

[To be continued.]

Veterinary Affairs.

THE following gentlemen obtained their diplomas at the Royal Veterinary College, on the 15th of June:—

Mr. Robert Bowles, of Norwich,
Mr. W. Bryant, of Tewkesbury,
Mr. W. Dearden, of Manchester,
Mr. Richard Reynolds, of Warsop.

Another examination took place on our publishing day, the result of which our next number will contain.

At the distribution of prizes at the close of the session 1834-5, in Mr. Youatt's class at the University of London, the first was awarded to Mr. Robert Brown Rush, of South Lopham, Norfolk; and the second to Mr. William Henry Coates, of Leeds. The essays of both these gentlemen possessed very great merit, and were so nearly equal, that Mr. Youatt thought it expedient to request the opinion of some competent and valued friends on the subject.

In compliance with his request, the pupils who had only attended the second course likewise competed, and to one of them, Mr. R. Lucas, a supplementary prize was given. His essay appears in the present number; and when it is considered that

he was debarred the use of all books and memoranda, and that he knew not the subject on which he was to write until he was seated at the table, it will be acknowledged that his account of “Rumination, and the Functions of the Stomachs of Ruminants,” reflects on him a very high degree of credit. Where, in our scanty collection of veterinary literature, shall we find a simpler, clearer, and more satisfactory explanation of this peculiar process, and the mechanism on which it depends? If in one or two points he a little differs from the lecturer on whom he attended, ~~why~~ he had a right to think for himself, and his instructor likes him the better for so doing.

Y.

Miscellanea.

HORSE SELLING.

A Scene at ———— —“Gentlemen, what can you hesitate about? Only look at her! She is one of the most beautiful creatures that I have ever had the honour of submitting to your notice! So gentle in her paces—indeed so safe a goer, that a child might ride her. Her pedigree is excellent—she is thoroughbred from her ear to her hoof; and the Heralds’ College could not produce a more sound and satisfactory one. She comes from a good house, I pledge my word, gentlemen. My Lord Duke, will you allow me to say £250 for your Grace? She will, notwithstanding the excellence of your Grace’s stud, be an ornament to it. She is a picture—complete to a shade; in fact, I could gaze upon her for ever, and always be struck with some new beauty she possesses. Thank you, my Lord Duke; I was certain your Grace would not let such an opportunity pass. There is not a horse-dealer in the kingdom who can shew such a fine creature! She is above competition—I may say she is matchless! The Regent’s Park might be betted to a mole-hill with safety that she has no paragon. Sir Henry, let me call your attention to Cleopatra! She is like her namesake in the olden times—but beautiful without paint! She is pure Nature, and no vice! Her action, Sir Henry—yes, her action—you shall judge for yourself. Run her down, John. The Graces, I am sure, *Sir Harry*, were they to behold her movements, would be out of temper with her captivating excellence! *Taglioni*,

I must admit, can perform wonders with her pretty feet; but *Cleopatra*, my Lord Duke, can *distance* the whole of them put together, and positively leave the Opera House, with all its talent, in the background. £300, *Going! Going!*—£310. Thank you, my Lord Duke, she must be your's. For the last time going at £310: I will allow you five minutes to compose your minds before you lose sight of this handsome creature. I do impress upon you to remember that the opportunity once lost—£320; Sir Harry, I am obliged to you—the world has always acknowledged you as a man of great taste in matters of this kind; and, without flattery, you have never shewn it more than in the present instance. *Going!*—*Cleopatra*, my Lord Duke, will be in other hands—a good bidding will make her your own for ever.—£340—My Lord Duke, I can only express my gratitude by saying, that you have done me honour.—*Going!*—*going!*—in fact, gentlemen, I am like an artist in this case: I do not like to leave such a delightful picture, and I could *dwell* upon the qualities of *Cleopatra* to the echo that applauds again—but most certainly I have given you all a fair chance:—are you all silent? *Going* for £340. What is that sum for one of the greatest English beauties ever submitted to the inspection of the public?—£350—thank you, Sir Charles—worth your money at any price. I have witnessed your notice of *Cleopatra* for some time past—she will bear looking at again and again! I am glad to see she has so many suitors for her hand—I beg pardon, gentlemen—a slip will happen to the best of us—her *feet*, I should have said; but, nevertheless, I am happy to see she has a host of admirers. I cannot *bid* myself, or else I would 'make play,' and *Cleopatra* should become a noble prize.—£370—Bravo! my Lord Duke! For £370 positively, yes positively, 'pon my honour, positively the last time. You are sure, gentlemen, that you have all done? Don't blame me, blame yourselves! *Going, once! Going, twice! Going, three times!* [*The auctioneer makes a long pause, and numerous flourishes with his hammer.*] *Gone!!! Cleopatra belongs to the Duke.*—*Egan.*

THE FOUR WORTHIES.

THE Diversity between a Horse-maister, a Courser, and a Horse-leach.—A horse-maister is he that buieth wild colts or horses; or breedeth them, and selleth them againe wild, or breaketh part of them, and maketh them lame, and then selleth them. A courser is he that buieth all ridden horses, and selleth them againe. A

horse-leach is he that taketh upon him to cure and mend all manner of diseases and sorances that horses have : and when these three be met, if you had a pothicary to make the fourth, you might have such foure, that it were hard to trust the best of them.—*Fitzherbert's Booke of Husbandrie*, p. 83.

PEDIGREE OF A HORSE.

THE following is a literal translation of the pedigree of an Arabian horse, well known in Nottinghamshire a few years ago : “In the name of God the merciful. The cause of the present writing is, that we witness that the grey horse *Derrish*, of Mahomet Bey, is the breed of nedgee horses, whose mother is the grey mare *Hadba the famous*, and whose father is the bay horse *Dahronge*, of the horses of the *Benhihaled*. We testify on our conscience and fortune, that he is of the breed concerning which the prophet has said, ‘the true runners when they run strike fire ; they grant prosperity until the day of judgment.’ We have testified what is known ; and God knows who are true witnesses.”—*Young Gentleman's Book*.

HORSE DEALER.

A JOCKEY in this town (Newhaven) wishing to make an advantageous display of a horse he was desirous of selling to a bystander, placed his boy on the back of the beast, ordering him to “ride a short distance.” The boy, though well instructed in his trade, unfortunately did not know whether the horse was really his father's, or yet to be bargained for ; being anxious, therefore, to learn the will of his father, he stopped after riding a little way, and said in a loud voice, “Father, shall I ride this horse to buy or to sell ?”—*Newhaven Register*.

COUCH GRASS.

A VETERINARY surgeon has lately discovered that exhausted and worn-out horses are very speedily restored to their strength and condition by giving them daily one or two bundles of couch grass, of ten or twelve pounds weight, mixed with a quantity of carrots. Thus, the weed which, wherever it has appeared, has been the pest of farmers, may become a useful medicament.—*French paper*.

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**TUMOURS ON THE MEMBRANA NICITANS; UNDER
THE JAW, AND AROUND THE RIGHT PAROTID
GLAND. FUNGUS HEMATODES.**

By M. CREPIN, Paris.

A MARE, about 18 years old, had had for many years an ulcerated tumour on the membrana nictitans of the right eye, but which did not prevent her from doing her work. Almost imperceptibly, during so long a period of time, it had augmented by little and little, until it had become as large as a pigeon's egg, and the eye was nearly covered by it. There ran from its most salient point a great quantity of sanious pus, which, mingled with the tears, continually flowed down the cheek. This tumour did not seem to cause any considerable degree of pain. I could not, for a very long period, obtain the consent of the owner to operate upon her; but at length I did prevail upon him, and the operation was performed on the 11th of February 1831.

It was exceedingly simple. The mare being cast on her left side, I passed a thread through the tumour, drew it out of the eye, and cut it off with a curved pair of scissors; and there remained absolutely nothing of the cartilage which had formed the base or nucleus of it. The consequences of this extirpation were as fortunate as could be wished: the mare returned to her work on the fourth day, and the eye was not much inflamed: one inconvenience only remained for a few days; this was relaxation of the lower lid, which, distended beyond measure by the tumour, did not immediately regain its former tension. A little cold water however served to remove this, and no dressing or cover was at any time applied to the eye.

From the time of the first development of the tumour, there had appeared a glandular substance under the jaw, which had slowly increased, and which, at the period of operating, was not so large as a nut, but was exceedingly hard. I merely hint at it now—I shall have occasion to refer to it again by and by.

During many months the eye continued well—there was no discharge and no appearance of irritation ; but towards the month of August, there appeared at the angle of the eye a new vegetation like a little pea, and which grew, and again covered the eye entirely, and considerably distended the lids: it could be felt under the lower lid, and spreading towards the bottom of the orbit.

On the 20th of February 1832 I extirpated this new tumour. I found more difficulty this time than before, on account of the numerous adhesions which existed between the tumour and the neighbouring parts. I succeeded, however, in isolating it without causing any serious lesion. The animal did not appear to suffer much during the operation, which, in fact, scarcely occupied more than two minutes. The immediate consequences resembled those of the former operation ; only there remained, after the disappearance of the first pain and soreness, a little purulent discharge, which constantly stained the nasal angle of the eye. The wound was washed with a weak decoction of marshmallow root, to which were added a few drops of laudanum, and the eye was covered with a wadded bandage. On the eighth day the mare returned to her work.

The tumour already mentioned beneath the jaw had acquired considerable bulk ; it in a manner filled the space between the jaws, and even projected below the branches of the maxillary bone. It was become very hard, and the skin was tense and adherent : nevertheless, as this tumour was neither painful, nor in any considerable degree troublesome, we did not attempt its extirpation at that time ; but, towards the end of the month after that in which the last operation on the eye had been performed, a new vegetation was developed on the very same spot where the other had been, and precisely of the same nature. It pursued its course as the other had done, and in five months again completely covered the eye. On the other hand, the tumour under the jaw had become enormous, and so hard that, without exaggeration, we could compare it only to a stone. It interfered materially with the motion of the tongue and the act of deglutition.

The necessity of a double operation was now evident ; and on the 11th of September, in the presence of M. Pagnier, formerly veterinary surgeon to the gardes du corps, and MM. Philippe and Leon, veterinary surgeons to the second regiment of dragoons, and who obligingly assisted me with their advice, I proceeded to the third operation.

After having made an incision along the skin under the jaw from the throat almost to the symphysis of the maxillary bones,

I dissected it carefully back, and then endeavoured to isolate the tumour from its numerous adhesions, partly with my fingers and partly with the bistoury. I succeeded thus in raising it in one mass, which weighed a pound and 13 oz. I feared to open the parotid duct; I was also close upon the internal maxillary artery: I tied both the one and the other. I was however compelled to open the parotid duct, and the result shewed that my fear about this was not without cause.

There remained two gangliform tumours, the larger of which, of the size of a pigeon's egg, was situated at the bifurcation of the jugular, and sufficiently deep to make me fear lest I should wound the carotid artery in removing it: the other rested on the side of the larynx. I hesitated to use my bistoury, but M. Leon determined me by the boldness of his advice; and, in fact, I extirpated these tumours and some other smaller ones that were in their neighbourhood without any dangerous hemorrhage.

The tumour of the eye, which was now as large as an egg, was very difficult to remove. It adhered to the caruncle, to the lower lid, to the sclerotic coat, and it buried itself under the eye to the very bottom of the orbit. Of my triple operation this was the most difficult part, and the patient suffered much. At length I terminated all of them without accident; I injured no essential part, and even the caruncle was preserved.

My first dressing for the channel between the jaws and the throat consisted of a pledget of tow and cold water, kept on at first by two or three sutures, and afterwards by a long bandage which surrounded the head and neck in the form of an S, as recommended by Lafosse for the operation of cataract. A simple soft compress covered the eye.

The animal appeared to suffer very much, and ate nothing for five or six days, when she began to improve, and at the end of the fifteenth day the wounds in the neck and eye were cicatrized. Those under the ear had done very well at first, but they afterwards became fistulous on account of the opening of the canal of Stenon (the parotid duct), from which flowed so great a quantity of saliva, particularly when the horse was feeding, that the litter was wet to the very bottom. I employed every means I could devise or my talented friends could suggest in order to remedy this evil. I passed a ligature round the duct; I cauterized its extremity; I employed a thin plate of lead to compress it accurately; I actively blistered the parts which covered it, and I passed into it an iron probe brought to a red heat. I continued this for two months, without any other result than occasionally arresting the discharge for five or six days. Seeing no other resource, I determined to extirpate the parotid gland, and it

was arranged that my friend M. Leblanc should perform the operation, which he already had done on another occasion with success. We were about to fix the day, when the discharge suddenly stopped and reappeared no more. This was doubtless owing to a cauterization in the form of punctures, which I had practised a few days before on the parotid gland, and the whole surface of which was afterwards covered with blister ointment.

As soon as the discharge ceased the mare was sent to her usual work, and continued in perfect health during several months, being fully as strong and as willing as she was before her illness. It may not be improper to remark, that even during the salivary discharge she had re-acquired a portion of that condition which she had lost immediately after the operation. My readers may draw what conclusion they please from this circumstance, but I only relate it as an historical fact for the sake of those who may institute any researches into the use of the saliva, and the inconvenience or danger of its escape by an external wound.

The wounds were scarcely firmly closed when new morbid productions began to form under the cicatrices, and, in the month of May 1833, the evil was become as great as ever. From the time of the last operation there had remained on the cornea, near the nasal angle, a fleshy vegetation as large as a lentil, and of the same form. This rapidly and extensively increased, and covered a great part of the eye, and finished by projecting beyond the lids, which it prevented from closing. The extremity of it was continually bleeding, and it occasioned great pain to the animal, by the frequent injuries to which its exuberance exposed it. For that reason, and from a feeling the nature of which he can easily conceive to whom the view of suffering is always painful, it was decided that she should be put into the hands of a farmer who had promised to treat her kindly, and never to subject her to hard work. The good feeling of the countryman was put to very short trial; for all at once she became a roarer, and that to such a degree that she was threatened with suffocation after the slightest exertion.

We thought that we should accomplish the wishes of her first owner, by promptly relieving her from tortures already too prolonged, and all her misfortunes were terminated by one blow—the only recompence for fifteen years' good service—an end, however, which is unfortunate only in appearance, for the greatest happiness of life is to die without thinking of it.

M. Leblanc was present at her death, and he gives the following account of the post-mortem appearances. Exteriorly there were many cicatrices along the course of the right parotid duct, under the jaw, and over the parotidean region, as far as the base

of the ear. Compared with the left side, these parts had lost their natural bulk. Among these cicatrices were found, here and there, little hard eminences of a rounded form—some moveable and others fixed—some covered with hair, and others denuded. The mare carried her head more than usually stretched out, and she roared considerably when exercised.

She was opened almost immediately after death. The skin of the head was carefully dissected off, and the channel, the region of the larynx, and the superior portion of the trachea, were found to be *farciéd*, with masses of different bulk communicating with each other by a dense fibrous tissue: they were of a form more or less round, and were covered by cellular tissue dense towards the exterior part and on the maxillary tuberosity, but lax in the deeper parts, and especially towards the larynx and trachea.

These tumours were formed, 1. Exteriorly by an envelope of cellular tissue, fibrous, very white, and which made a kind of bed, four or five lines in thickness. 2. The other part of the tumour consisted of a scirrhus tissue of a somewhat encephaloid nature: some portions were very hard and white, diversely disposed, and crepitating under the scalpel; the remainder, which was the greater part, was of a yellow colour, and less firm in consistence.

A mass of tumours appeared opposite to the posterior part of the larynx, and the superior one of the trachea on the right side and beneath the thyroid gland. It had caused the trachea to bend to the left, and had penetrated between the ligaments of that tube as far as the fifteenth ring. The tumours which composed it were arranged in the form of beads, small in proportion as they were posteriorly situated. The whole of them weighed at least five pounds.

The right parotid gland was not more than a fourth of its natural size, and its glandular structure was changed for an indurated cellular tissue, of a beautiful white colour—in some parts, however, still granulated like a gland, but having neither a glandular consistence nor hue. No traces of the parotid duct could be discovered, except at its very origin, where was an elongated cavity, sufficiently large to hold a pigeon's egg, and which contained a turbid fluid, consisting probably of decomposed saliva.

The other salivary glands were of their natural structure. The lymphatic glands of the channel between the jaws had disappeared, or probably they had been transformed into scirrhus tumours.

The right lachrymal caruncle was as large as a pigeon's egg, scirrhus and encephaloid like the other tumours. At the great

angle of the eye there was a similar mass, as large as a nut, and which presented at its summit two wrinkles or channels, which converged towards its centre. Its base, larger than its summit was supported, partly by the cornea, and partly by the sclerotica. These two membranes of the eye did not appear to be diseased; they were only a little depressed: a mucous membrane covered the tumour, and which had also its origin in the sub-mucous tissue. The interior parts of the eye were sound. The eyelids were thickened.

Journal, April 1834.

TWO CASES OF DIVISION OF THE FLEXOR TENDONS.

By Mr. SAMUEL GOODWORTH, Driffield.

THE first was an unsuccessful case. A bay horse had contraction of the flexor tendons of the right fore leg. I first cast him, and then made a longitudinal section through the skin, and afterwards cut transversely through the tendons of the flexor perforatus and perforans. After I had cut through the tendons, I found that I could not replace the leg in its proper position; but as I had bought the horse for experiment, I was enabled to have recourse to expedients from which I should have been otherwise debarred—I therefore employed considerable force. I got a halter, and put it upon the leg above the division of the tendons, and tied the other end to some paling. I afterwards obtained another halter, and put it round the hoof, and gave the end to my assistants to pull with considerable force. Four men were thus employed, and they exerted all their strength to bring the bones into their natural position. At the moment this was effected a loud crack was heard, which frightened the men, and somewhat surprised me: indeed, I had then little hope of my patient.

I then put on a bandage, and let the horse get up. He could bear a little upon the leg, but, when he appeared to throw much weight upon it, it fell quite back. The limb began to swell the next day, and continued daily to get worse.

I let him live a few days, until I plainly saw that there was no chance of recovery; I then destroyed him. I afterwards cut off the leg by the knee, and after boiling it I found that the crack which we heard had been the sessamoid bones that had broken in two; they having previously adhered to the large metacarpal bone superiorly, and inferiorly to the os suffraginis.

There was much bony deposition about the inferior part of the large metacarpal bone; and likewise the superior head of the os suffraginis and the sessamoid bones were carious. The horse was a stranger to me, and I could not ascertain how long he had been in that state.

The next case was a successful one. A bay horse, the property of a gentleman in the town of Driffeld, had been lame in the right hind leg, less or more, for two years. He first began to go upon his toe from a strain in the back sinews. The blacksmith thickened the heels of the shoe a little at each time of shoeing, and the gentleman kept using him in his gig—the horse being a great favourite—until at last the blacksmith was beaten, for the horse, at length, could not stand upon the lame leg while a shoe was to be put upon the sound foot. On that account he was thrown out of work, and he was in this state when he was put under my care.

I cast him, and performed the usual operation. After I had divided the flexor tendons, the leg very nearly went into its proper position, which gave me great hopes of his doing well.

In five weeks I discharged him from my infirmary, to the great satisfaction of the owner. The horse has since gone on well.

The great difference in the result may afford a useful hint to some of the readers of *THE VETERINARIAN*, and I think that I shall profit by the lesson I received.

A CASE OF SUPERFETATION IN THE COW.

By Mr. W. COWELL, Hatfield Peverill.

ON Saturday, June 20th, 1835, about 6 P.M., a cow, belonging to Mr. B——, Woodhamwalter, calved a very fine living calf. The placenta following almost immediately after the foetus, and the cow was left until 9 o'clock, when, much to their surprise, a second calf was discovered, somewhat smaller than a hare. The cow did well. Not having seen any similar case reported either in your valuable periodical, or in any other work, I have been induced to send you this short history.

SPLENITIS IN THE OX.

By M. CRUSEL, Grenada.

INFLAMMATION of the spleen often occurs in the ox. Having little intensity at its commencement, it sometimes suddenly

disappears, but only to return anew when the cause that first produced it is again called into action.

Its principal symptom—swelling of the belly in the left hypochondriacal region and flank—may be confounded with distention of the paunch; but an attentive observer will easily recognize the difference between the two diseases. The enlargement of the spleen elevates the last false ribs and the left flank, but never so suddenly, nor to such an extent, as the hoove. It yields on percussion a dull and heavy sound; a different one from that which is given when the stomach is distended. The anus also protrudes in hoove, and the urine is discharged drop by drop. In splenitis, the respiration is a little more frequent than in its natural state; is neither short nor spasmodic, but there is some difficulty in walking: rumination takes place only at intervals; the fæces are irregularly discharged, and of an uncertain character. Irritation of the stomach and intestines soon succeeds; and often gastro-enteritis is complicated with splenitis.

Splenitis is sometimes of short duration. The enlargement disappears as rapidly as it was formed; the ox ruminates, and does not seem to have suffered much by this first attack: but the affair is already serious, for that organ is disposed to a second determination of blood to it. The same cause being called into action, the disease returns; and, on account of the extraordinary passiveness of the vessels of the spleen, there probably is not sufficient time for it perfectly to disgorge itself.

Inflammation of the spleen appears generally in cold and wet seasons, when the animals are severely worked; and when they are harnessed immediately after they have fed, and before they have had time to ruminate, and are compelled to exert all their strength with the paunch surcharged with food. The natural determination of the blood towards the organs of digestion is thus increased; and as the substance of the spleen is soft and relaxed, the blood easily penetrates it, and is with difficulty discharged.

If their work terminates so that rumination may take place, a portion of the blood escapes, and the swelling disappears. The first attack is followed by a second, until congestion is succeeded by or produces inflammation. This inflammation is sometimes slight; at other times it is exceedingly intense, and speedily terminates in rupture of the organ and death.

Splenitis takes its character from the nature of its cause, accordingly as it is of momentary duration, acute, simple, complicated, intermittent, or chronic. It is usually too hard work that produces spleen in an animal as full of blood as the ox; and it seldom appears in cattle that are out at pasture, or that are moderately worked.

Splenitis terminates in resolution when its attack is sudden, and yet not intense; and by rupture of that organ and death if the inflammation is carried to a great extent, or the beast is compelled to work while labouring under it. It becomes chronic, and leads to disorganization of the viscus, if it continues long or is intermittent, or the resolution is incomplete. We shall see all these variations in the following cases.

CASE I.

Acute splenitis, simple.—In the month of April 1834, remarkable as a season almost constantly wet, an ox was harnessed to draw gravel. He was eight years old: he had a voracious appetite, a vast abdominal capacity, and had just been feeding plentifully on dry lucern. He worked for two hours without any symptom of illness; nevertheless he had not ruminated, because he had neither the time nor the means, being compelled to employ all his energy in drawing the cart to which he was attached. His companion, of a stronger constitution, and caring less for the goad, ruminated at intervals. All at once it was perceived that the ox of which we are speaking moved with pain; that he refused to draw; and that his flanks heaved violently. I was immediately sent for. He was then quiet: he did not manifest any pain when I pressed on his loins; but he shrunk when pressure was forcibly made on the superior part of the last false ribs. The left flank was tense and hard; it rendered a dull and full sound on percussion. The muzzle was not moist, but it had not that dry and rugous appearance which it usually exhibits in intense abdominal inflammation.

Diagnostic.—Acute splenitis, simple.

Treatment.—Twelve pounds of blood were drawn from the subcutaneous abdominal vein: during the bleeding the tension of the flank entirely disappeared, and rumination commenced. The ox rested two days; he then was allowed only one-half of his usual food, and recovered.

CASE II.

Very intense acute splenitis, with gastro-enteritis.—In the month of September 1833, an ox employed in the vintage had not ruminated since the morning. About an hour after noon he began to walk as if in pain; his left flank was swelled; the tension extended to the last false ribs superiorly; and, on percussion, the flank yielded a dull and full sound. The ox manifested pain when pressed on this part, and he uttered frequent plaintive lowings.

Diagnostic.—Acute splenitis, with gastric irritation. The plaintive lowings are symptoms of the last affection.

Treatment.—Bleeding to 12 pounds, rest, restricted diet, mucilaginous drinks.

2d day.—No rumination; muzzle dry and wrinkled; the same tension of the flank and the left hypochondriac region; those parts are becoming tender: plaintive lowings continued; the urine clear, and little in quantity, and the fæces ejected without effort, in small quantities, soft, and coated with mucus.

Treatment.—Bleeding to 10 pounds from the subcutaneous abdominal vein; drinks of a decoction of marshmallows; emollient injections; application of cloths dipped in cold water to the splenic region.

3d day.—The symptoms have lost their intensity. The enlargement of the spleen has diminished two-thirds; the plaintive lowings are not so often heard; the beast ruminates, and during the rumination a white and thick fluid drivels from the mouth: he is eager for food; the fæces are expelled without pain, but they have not yet regained their natural consistence.

Treatment.—Mucilaginous drinks; emollient injections; cold lotions about the region of the spleen; a quarter of his usual allowance of dry meat; white water, with barley meal.

4th, 5th, and 6th days.—He evidently continues to improve. The animal gradually returned to his ordinary regimen, and on the tenth day he went to work, the cure being completed.

In this case splenitis is sufficiently evident at the commencement; it soon became complicated with gastro-enteritis, which, without energetic treatment, would not have failed to reach a high degree of intensity in a very short time, because it was plainly under the influence of the same cause that had given rise to the affection of the spleen.

In the next case we shall see splenitis almost immediately terminating in rupture of that organ, because the circumstances that had produced it continued to act with unusual violence.

CASE III.

Acute splenitis, highly intense—Death.—On the 25th of July, 1834, a well-formed ox, six years old, almost entirely employed in drawing wood, ate, about midnight, a great quantity of the ears of green maize. Oxen are very fond of this kind of food; and as he would have to work ten or twelve hours without halting, he was suffered to eat as much of it as he pleased. Having satisfied himself, he was harnessed, and sent to work. As in the first part of his journey they had only the empty cart to draw, the driver urged on his oxen very speedily, so that it

was impossible for them to ruminate. Having arrived at the place where they were to take up their loading, he lost no time in attaching them to a carriage more heavily laden than it ought to have been.

The air had been cold and damp in the morning ; but as they returned about ten o'clock, drawing a load above their strength, the sun broke out unclouded. Harassed and devoured by insects, half suffocated by dust, and exposed to a south wind, which deprived them of their strength and rarefied their blood, they began to pant dreadfully. The one who is the subject of this narrative fell ; he was forced to get up, and then it was perceived that his belly was much swelled. The conductor, it would seem, was eager to bring him to me, that I might remedy what he thought was a case of simple hoove ; he therefore goaded him on until he reached my infirmary, but the moment he was freed from the yoke he fell and died.

Examination, two hours after death.—The paunch contained a great quantity of ears of maize, scarcely masticated. Many pounds of blood were effused in the abdomen. The spleen was very much enlarged, and ruptured in several places at its posterior border ; its texture was soft, friable, and distended with blood. Several small spots of inflammation were visible on the peritoneum. The liver was enlarged, black, and friable. The lungs presented a white surface, as in animals that die from loss of blood. The cavities of the heart contained very little blood.

CHRONIC SPLENITIS.

Splenitis becomes chronic, when from the beginning it has possessed little intensity ; when the cause that produced it continues to act, but with little energy ; and it becomes equally so if the cause acts periodically : disorganization of the organ, however, is not the inevitable consequence. Lesions of this viscus are never found alone : if the spleen becomes scirrhus or tuberculous, we may be assured that we shall find the same changes in other viscera.

An ox, six years old, always thin, and having its coat staring, although well fed, was employed in work on the road. He had a companion whose slowness was a striking contrast to his quickness of pace ; so that the first was always at work, and supported almost the whole of the labour.

Every day, after having worked one or two hours, he appeared to be fatigued, and his left flank began to swell : sometimes rumination went on while he was in this state ; but at other times, when the swelling was greater than usual, rumination was suspended. This enlargement of the spleen ordinarily

lasted until the end of the morning's work. Having arrived at the stable, the animal lay down and rested for some moments in a kind of somnolent repose; he then got up, his belly no longer distended, and manifested a desire to eat. If he was put to work in the afternoon, the same phenomena presented themselves; but if he remained at home they did not appear. On the regular days of rest nothing seemed to ail the animal.

This had already continued during a month when I was consulted. My diagnostic was—a periodical enlargement of the spleen, occasioned by fatigue, and by some peculiar state of that organ. He was kept from work; his forage was lessened; and a bleeding of 8 pounds was effected. This treatment seemed to be beneficial: his coat was better laid; the skin became unctuous; rumination was properly performed; and the animal was gay, and ate all before it. Eight or ten days of this regime appeared to me to be sufficient, and to have destroyed the inflammatory tendency in the spleen; and as the ox had not worked, the tumefaction had not reappeared. He was then harnessed again.

1st day.—Slight tumefaction, which endured only half an hour.

2d and 3d days.—Reappearance of splenitis with as much intensity as ever. Rest was again prescribed. Two bleedings of six pounds each were ordered, with an interval of two days between them; application of compresses, soaked in acidulated water, on the flank and left hypochondriac region, until the engorgement disappeared. The beast regained his condition under the influence of this treatment. I then advised them to fatten him, lest the splenitis should return with his labour.

Particular reasons prevented my counsel from being followed, and the ox was again sent to work. During the first days he seemed to have been entirely cured of his complaint, but he was soon out of breath, as usual, and sometimes, before the commencement of rumination, he coughed violently. He continued to work; the tumefaction of the spleen shewed itself anew, at first occasional, and with little intensity; but, when I saw him two months afterwards, it was constantly swelled, and he expressed much pain when the left hypochondriac region was pressed on. He became affected with foetid diarrhœa; his cough was feeble and frequent; and he was evidently labouring under marasmus.

Having no hope of his being longer serviceable, and there being no possibility of fattening him, it was determined to destroy him. On examining him after death, the abdomen contained a small quantity of serosity. The spleen was much

enlarged, and had contracted intimate adhesions with the paunch and the hypochondriac region, and its surface was irregular over a considerable part of its extent. I cut into it in several places, and its texture was partly changed into a tuberculous mass: the irregularities which appeared externally contained concrete or semi-fluid pus. It was with difficulty that we could discover any trace of the proper bloodvessels of the viscera, but the most complete disorganization existed at the superior part, in the neighbourhood of the diaphragm. There were also some tubercles of small size in the substance of the liver and the pancreas. The gastro-intestinal mucous membrane was ulcerated at some points; the peritoneum and mesentery were pale and thickened.

In the thorax, the left lung adhered to the costal pleura, but otherwise it was sound. The right lung had, at its posterior part, numerous tubercles; and the mediastinum was nothing more than a mass of morbid productions, varying in volume and in condition. It formed a body of a scirrhus appearance intimately united with the œsophagus. This last circumstance explained the convulsive cough which was heard before the ox began to ruminate; it was a preparatory shake in order to prepare the canal for the ascension of the pellet of food.

This malady often affects our beasts of draught, and it is of much importance to be able to distinguish it. Usage has constituted it an unsoundness, and with very good reason; for it has been shewn, that if splenitis has become chronic, although it may not be complicated with any other organic lesion, the beast is not the less lost for the purposes of work. He can, however, be readily fattened, if the disease has not committed any great ravages; if it is not accompanied by diarrhœa; and if marasmus has not commenced.

Journal, Nov. 1834.

RUPTURE OF THE DIAPHRAGM IN FOALING.

By Mr. R. THOMSON, Beith, N.B.

I WAS sent for one Sunday in sermon-time to attend a mare that was attempting to foal, and when no person except the owner was at home. The position of the foal was such that I could not much assist her without more help, for the almost constant pressure prevented me from putting the foal in a proper position. The whole four feet were presented; the head was bent below the chest; and the vertebræ of the neck were bent and stiff, shewing

that, if the little animal should be foaled alive, the neck would be crooked.

In about half an hour assistance arrived. One man helped me to push back the sternum and fore legs of the foal into the belly of the mother, whilst other two men pulled the hind legs and quarters into the pelvis. The mare at this time gave a desperate plunge, accompanied by a dreadful groan. The foal came easily away after a very gentle pulling by the assistants, but the uterus of the mare immediately ceased to act. A considerable alteration was immediately observed in her, the muscles of the belly and flank laboured hard to keep up respiration, the pulse sunk every minute, and she died in half an hour.

On opening her belly, the diaphragm was found to be ruptured almost from side to side across the fibres. A large quantity of blood was both in the chest and belly. The muscles of the parietes of the belly were also partially ruptured, and much blood had insinuated itself between the layers of muscle. The womb was perfectly sound and free from injury.

ABSTRACTION OF A PORTION OF OMENTUM FROM A COW.

By the same.

A cow having got a push from another upon the side of the belly, so as to divide the muscles but not the skin, suppuration commenced some time afterwards, and the integument gave way. I received orders to attend the animal, as "her puddings," they said, "were coming out." I examined the protruded portion, which really seemed like intestine, and being dead, and decomposed, I pulled it away. It was a portion of omentum, about fifteen inches in diameter.

By introducing my fingers I could feel the intestines perfectly distinct. The injured portion had been divided by suppuration and sloughing. The cow perfectly recovered.

A CASE OF RABIES IN THE HORSE.

By Professor DUPUY.

A HORSE, fourteen years old, that had been bitten by a dog supposed to be rabid, was observed not to feed so well as he was accustomed to do; and when, in the evening, he was placed in the stable, he attempted to bite the horses that were nearest to him.

In the morning he shewed the same disposition—rolled himself on his litter, and uttered the most frightful cries. A veterinary surgeon was sent for, who gave him a drink composed of two ounces of aloes, and some mucilaginous injections, thinking that he laboured under stomach staggers.

On the following day all these symptoms were aggravated, and the veterinary attendant thought that he was affected with phrensy rather than indigestion; and, placing him in another stable, he practised two copious bleedings during the day, and inserted two setons in the chest, and the same number in the thighs.

The violence of the symptoms rapidly increased—the animal bit himself every moment, tore the setons from his chest, and rolled about, and rushed at every one whom he saw. At length he broke his halter, and was loose in the stable, from which every one hastily escaped.

On the fourth day he continued to eat and drink, and even with avidity. His groom, entering the stable, offered him water; he drank nearly two pailful, and made no attempt to bite him. It was not, however, thought prudent for any one to go near him afterwards, and his food was thrown to him through an opening over the door, and a bucket was likewise suspended from the door, and supplied with water by means of a copper tube. As soon as he heard the water falling into the pail, he fell into violent convulsions, seized the tube, and crushed it to pieces.

On the fifth day he was covered with sweat, his eyes glared, he continually shook his head, furiously bit the right side of his chest, plunged about, and sighed deeply every moment. He foamed a little at the mouth: when the water in his bucket was agitated, he was seized with violent convulsions. He would occasionally approach the bucket as if he wished to drink, and then, after agitating the water for some instants, he would fall on his litter, uttering a hoarse cry; but he would rise again almost immediately. These symptoms were dreadfully increased if water was thrown upon his head, and he would endeavour to seize it as it fell. This continued until the next day with little change, when he died in violent convulsions.

On examining him after death the muscles were found to be discoloured and softened; they were easily torn, and much black coagulated blood was found in the intermuscular cellular texture. The subcutaneous cellular tissue was in many points infiltrated by a blood-coloured serosity resembling jelly, which was particularly evident about the larynx. This was also seen in the laminous tissue along the dorso-lumbar portion of the spine; and it

seemed to unite together the granules of the parotid gland, which were gorged with black blood.

The muscular coat of the esophagus, of an orange-red colour, was easily torn; the substance of the heart was also discoloured and softened, and its exterior surface presented several large black ecchymoses.

The venæ cavæ, the right auricle and ventricle, and the pulmonary artery and its divisions, were also filled with black coagulated blood. The pulmonary veins, the left auricle and ventricle, and the large arterial vessels, contained blood of a much lighter colour than in its natural state; large ecchymoses were found on the lining membrane, and the pericardium contained three pounds of red serosity.

The tissue of the salivary and parotid glands was exceedingly red, as were also the surrounding parts. The liver was enlarged, gorged with black blood, and easily torn. The membrane lining the septum of the nose, the nasal cavities, the turbinated bones, and the guttural pouches, was thickened and infiltrated. That of the larynx, trachea, and bronchi, was of a violet hue, and all these passages were filled with mucous spume.

The cineritious portion of the brain and spinal marrow was redder than in its natural state, and the medullary substance presented numerous little red spots. The mesian and lateral sinuses of the dura mater were filled with black blood.

The membranes of the brain and the plexus choroides were very red, and the fringed or floating substance of the concretion was of a stony consistence.

The spinal marrow was softened at various parts, and particularly from the fifth cervical vertebra to the third dorsal. At the lumbar region it was fluid, or resembled a broken-down caseous matter. There was also a yellow infiltration about the roots of the nerves, and between the duplicature of the membranes which invested the spinal marrow.

Journal Theor., Avril 1835.

INFLAMMATION OF THE VEIN.

By Mr. J. M. HALES, Oswestry.

INFLAMMATION of the jugular vein of the horse, as a consequence of bleeding, is a disease of considerable importance to the veterinary surgeon,—one that he frequently has to attend to, particularly in the summer season,—and one, the successful termination of which mainly depends upon the efficiency, and, occasionally, upon the promptness, of the treatment employed.

I hope, therefore, that I shall be excused for occupying your pages with a few observations upon this subject, and calling the attention of your readers to the consideration of a disorder, from the treatment of which reputation may not unfrequently be gained or lost.

Of the causes of inflammation of the vein, I have little to add to what is laid down by those who have previously written on the subject; I must, however, remark, that in the country the majority of cases which occur in the summer (the most fruitful season of the disease) are brought on by the practice of turning horses out immediately or very shortly after they have been bled, frequently with the pin remaining through the orifice. Either the almost continual depending position of the head in grazing, the irritation to the orifice, and the consequent rubbing of the neck, or these causes conjoined, I consider to be the most common progenitors of this species of phlebitis. I was ten minutes ago called from this writing to see a case of this description: the horse was bled ten days ago by my assistant, who directed that he should be kept in till the neck had got well; notwithstanding this, next morning the horse was turned out, with the pin in, and no notice taken of the matter for two or three days, when he was found with a sore neck, and he has now a vein slightly inflamed, with a disposition to hemorrhage from the orifice.

That scientific veterinary writer Mr. Percivall, in his "Lectures on the Veterinary Art," and again in his more recent work "Hippopathology," has the following observation: "I shall now make mention of, and endeavour afterwards to account for, a circumstance which at first view appears so singular, that it has hitherto, I believe, baffled all attempts to explain it, viz. why inflammation of the jugular vein in the horse should extend itself towards the head, contrary to the course of the circulation; while the same disease in the human arm invades the vein as it proceeds to the heart." Mr. P. then very ingeniously sets about to explain this extraordinary phenomenon. The same doctrine, that inflammation of the jugular vein in the horse proceeds only in one direction towards the head, is, or at all events was, held by our talented and much respected Professor Mr. Coleman, and, I believe, by most veterinary writers, and is, in fact, received nearly as an axiom in the profession. It is, therefore, with great diffidence, and only impelled by an anxious wish that the principles of our profession should be as correct as may be, that I state, that, so far as my observation and experience go, inflammation of the vein of the horse's neck after bleeding extends in each direction below as well as above the orifice; and even in

very severe cases this inflammation does not usually extend to any great distance from the orifice. If, in a case of inflamed vein, examination by the finger is made below the orifice, the vein will be found enlarged, hard, and painful when pressed upon; and this will extend for two, three, or four inches, in proportion to the violence of the inflammation, or the length of time it has existed. I willingly admit that the urgent and distressing symptoms which sometimes accompany an inflamed jugular vein are met with from the orifice to the head; but these I consider to be the consequences of the obstructed circulation, and not from a direct extension of inflammation of the vein. As far as my limited acquaintance with veterinary writing goes, I am not aware of one well related instance of the morbid anatomy of the inflamed jugular in the horse; but, in the fifteenth volume of the *Medico-Chirurgical Transactions*, there is a very excellent paper, by Mr. Arnott, on the "secondary effects of inflammation of the veins," in which the post-mortem examination of two horses that died with inflammation of the jugular vein after bleeding is very clearly given. A case also occurred in my own practice not very long ago.

Mr. Arnott's first case is as follows:—"A horse being seized in the park with paralysis of the posterior extremities, was, with difficulty, got back to the stable. He was immediately bled from the left jugular vein; and Mr. Field, having seen him four hours afterwards, ordered the bleeding to be repeated, which was performed from the same orifice.

"The paralysis was not relieved, and, the vein having inflamed, it was determined after some days to destroy the animal. On the 30th of June, seven days after the venesection, Mr. A. saw him, and found great tumefaction all along the left side of the neck, in the course of the jugular vein, from the angle of the jaw to the chest, the parts being tense, firm, and tender to the touch. The aperture made in the bleeding was covered by a small crust of dried blood. The vein could not be distinguished amidst the general swelling, but the facial and all the other veins on the side of the head and face were turgid with stagnant blood. The horse was pithed, and the examination immediately made: the cellular substance beneath the skin and over the course of the jugular vein was loaded with coagulable lymph, becoming more firm as it approached the vessel, so that its cellular sheath was converted into a solid thick coat, having numerous red vessels distributed on its inner surface. The proper coats of the vein were enormously thickened; the aperture made in bleeding was filled with a granular looking substance of a yellowish white colour, which substance (coagulable lymph) completely plugged the cavity of the vein opposite the puncture,

and for an extent of three quarters of an inch downwards. The great thickening and increased vascularity of the coats of the vein, together with a roughened red internal surface, extended three inches *below* the plugged part to the entrance of a small vein at the bottom of the neck, where they suddenly and abruptly terminated. The canal through this portion of the vessel was greatly contracted from the excessive thickening of the coats, but it was pervious, yet no blood had circulated through it. At the entrance of the branch just mentioned the coats of the jugular resumed their natural appearance, and the blood brought in by this communicating branch passed freely onwards to the heart. Above, the portion of vein which was plugged with lymph, the thickening of the coats extended (but in a much less degree than below) to where the jugular divides into the external anterior and the external posterior branches. The canal of the vessel through this extent was filled with coagula of blood, adhering somewhat firmly to the inner surface of the vein, which here presented a smooth appearance: these coagula extended into the branches abovementioned, from the divided superior extremities of which they were forced in the form of plugs, by the mass of fluid blood accumulated beyond them."

Mr. Arnott's second case is related by Dr. John Sims:—"A horse met with an accident, and was bled on the 6th of October. On the 9th, a tumour, about the size of an egg, appeared on the wound of the vein; matter formed, and a discharge was kept up from the orifice. On the evening of the 10th, a rattling noise was observed in respiration, and other symptoms of inflammation of the lungs, attended with fever, occurred: they continued to increase, and resisted the remedies used for their relief. On the 24th, a quantity of blood flowed from his nostrils, which apparently came from his stomach; and, on the 25th, he died, nineteen days from the time he was bled: he was previously in perfect health, except the lameness mentioned above." Dr. Sims was present when the carcass was examined by Mr. Jumpson, veterinary surgeon, Chelsea, who saw the animal several days before he died. "Eight inches of the jugular vein were removed: the part surrounding the orifice is ulcerated; the coats of the portion of vein extending towards the head are nearly three times their natural thickness, and changed in colour: the internal coat has a dark rough surface. These changes terminated two or three inches beyond the orifice. This part of the vein contained dark-coloured pus. Immediately below the orifice three inches of the canal are obliterated in a direction towards the heart. Proceeding downwards, the vein is quite natural, and contains coagulated blood." The morbid appearances of the

chest and other viscera are then given in support of Mr. Arnott's opinion, that phlebitis induces a secondary constitutional affection, which is the cause of death, and not by direct extension of the inflammation of the vein.

A year and a half ago I was desired to attend a two-year old thorough-bred filly, the property of W. Ormsby Gore, Esq., M.P.: she had an inflamed vein after being bled; the hard, corded, tender state of the vein extended two or three inches on each side of the orifice, with slight swelling of the parotid gland. I did not consider the case as very severe, and felt no alarm beyond the probability or, indeed, almost certainty, of losing the vein on that side. The filly appeared in health, and had been bled by the groom more as a part of stable discipline than that she was supposed to be labouring under any disease. For six days every thing appeared to go on well, and the inflammation in the vein was arrested; it was, however, evident that the cavity of the vein was plugged up and impervious to the passage of the blood. At this time some unpleasant symptoms began to shew themselves; there was every reason to suspect mischief in the chest, but it was not easy to say precisely what that mischief was. There was no apparent extension of the inflammation of the vein down the neck to the chest. I, therefore, considered it as sub-acute inflammation of the lungs, and not connected with the inflamed vein, and treated the case in the manner that I considered the circumstances required, but without success; for, in ten days from the time the internal affection was observed, the filly died. The vein, for about two inches above and two inches below the orifice, was completely obstructed; the coats of the vein being inflamed and thickened, and the caliber of the vessel filled with condensed coagulable lymph: the disease of the vein appeared to extend but little, if any, beyond this obstructed part in either direction. Above, the vein was full of dark-coloured blood; below, it was quite empty, and exhibited no morbid appearance, and was quite pervious. At the point where the puncture in bleeding had been made, there was a cheesy sort of substance intermingled with the condensed lymph. The pericardium was inflamed, and there was effusion of a reddish serum within its cavity; the lungs were inflamed, but not disorganized; there was effusion in the chest, but not great in quantity; the pleura was also in an inflamed state. It being a wet, cold day, and the carcass in the open air, no further examination was made. I must repeat, that, at the time this case occurred, I did not consider the disease in the chest as connected with the inflamed vein, although I had seen Mr. Arnott's paper previously. I am now, however, of a different opinion, and cannot help

thinking that the disease of the pericardium, lungs, &c., was the secondary effect of the inflamed vein, but not from extension of inflammation.

From the foregoing facts, together with my observation in cases of inflamed vein generally, I cannot avoid coming to the following conclusions:—that inflammation of the jugular vein in the horse, after bleeding, proceeds in each direction, above and below the orifice; that the inflammation does not usually, if at all, extend to a greater distance than three or four inches on each side the orifice; and that the urgent symptoms which sometimes exist about the head and throat are produced by the sudden obstruction of the circulation and other causes, and not by direct spreading of the inflammation of the vein. Although the case mentioned as occurring in my own practice, and Dr. Sims' case in Mr. Arnott's paper, may not be considered sufficient to establish the fact that horses may die of internal diseases brought on as secondary results of inflammation of the vein, in the same way as phlebitis in the human subject is known to terminate fatally by inducing similar complaints, still the subject is well worth investigation, and, I hope, will claim the attention of our profession.

In some cases of inflamed vein the lips of the orifice entirely separate before the vein is plugged up with lymph or coagula, and thus establishing an open wound into the vein, from which blood will pour in alarming quantities. I have several times been sent for into the country to cases of this description, with the addition to the message requiring my attendance, that the horse would bleed to death before I got to it. Under such circumstances I believe it is the practice with many to endeavour to restrain the hemorrhage by the application of the actual cautery to the external orifice: but this is not always effectual; and I have heard not only of successions of hemorrhage, but even that cases have happened in which the patient has bled to death in consequence of the detachment of the slough before the vein was plugged up. When this secondary hemorrhage comes on, it can only be permanently stopped by obliteration of the cavity of the vein. With this principle in view, the practice that I adopt in cases of this kind is merely mechanical. I insert a pin through the separated lips of the orifice, and draw them together with a thread of tow well wrapped round the pin, in the same manner as is done after bleeding, but more firmly. I then take every advantage I can of the position of the head, and wait for inflammation, effusion, and condensation of lymph, to close the caliber of the vein. There is one case of this description which occurred to me under rather unusual circumstances, and which I cannot refrain from giving some account of.

Seven years ago, a three-years colt, the property of R. Yates, Esq., was brought to be bled early in the morning. An assistant, who was then with me, proceeded to perform the operation with a lancet, an instrument which, although I always bleed with myself, I never, with my knowledge, permit either assistant or apprentice to use. The colt swerved, and by some accident a terrible gash was made in the vein. Both operator and groom were sadly alarmed, and the former burst into my bed-room to tell me the colt was bleeding to death. I hastened to him, and certainly the blood was gushing out at a fearful rate, and, to use the coarse but apt simile of the man who held him, was like a cow staling. I immediately commanded the flow of blood by making pressure with my fingers upon the vein above the orifice, and, having directed this pressure to be kept up, I proceeded to examine the wound. The incision through the skin was between three and four inches in length, and I could easily introduce two fingers into the vein. It required four pins to secure the neck from hemorrhage.

I had the colt taken to my own stable, that he might be under immediate observation. The head was kept in rather an elevated position; the patient fed with thin mash, and carefully watched, lest a renewal of the bleeding should take place either from one or more of the pins losing their hold, or from any other cause. At the end of five days the pins were removed, and we found that the external orifice was closed, but the position of the head was still continued. The owner of the colt wishing to have him home, and saying that every attention should be paid to him, and the gentleman's residence being only a mile from Oswestry, I consented to his being removed on the seventh day from the accident. Early on the third morning after he had been taken home, I was sent for in great haste: the colt was bleeding as bad as ever. I galloped to him, and found that the lips of the wound were separated, and there was a large open communication into the vein. The man who had seen me stop the bleeding before was present when the hemorrhage occurred, and was pressing hard on the vein above the orifice when I arrived. Being aware that nothing but obliteration of the cavity of the vein would permanently restrain the bleeding, I again inserted the pins to wait for this event, and certainly not without apprehension, lest the bleeding might occur when no one was near (although I had directed that he should be strictly watched), or that the inflammation in the vein might be so intense, that I should from this cause lose my patient. No further hemorrhage, however, occurred; inflammation of the vein proceeded rapidly and severely; the tube of the vessel was soon filled up, and the pins removed. Great enlargement of the parotid gland, soreness of throat, coma, and

stertorous breathing, also followed, and it was, in fact, one of the severest cases of inflammation of the vein that has come under my care: still it terminated favourably, and the gentleman used the horse for several years, and then sold him, perfectly sound, except the obliteration of the vein on the right side of the neck.

The local treatment which I adopt in cases of inflammation of the vein, and upon which I have great reliance, is, blistering along the course of the vein. I do not, what I consider a waste of time, apply fomentations or other emollient applications; but, if the disease has extended beyond the orifice, I at once direct liquid blister to be rubbed over the inflamed vein, and the effect kept up till the complaint is subdued by the occasional repetition of the remedy—once in two or three days, as may seem to be required. I generally find that recent cases will speedily yield to this treatment; and in those of longer standing, in which the disease has made much progress, the application of the blister will often, at once, arrest the affection; and a few repetitions of it effect a cure. I must, however, observe, that there is a strong tendency to effusion of lymph and obliteration of the cavity of the vein; and without we have the case almost at its first commencement, it is impossible to prevent the vein from being lost, no matter what treatment may be adopted. When enlargement of the glands about the head and soreness of throat are amongst the symptoms, the blistering is continued over these parts. When congestion of the vessels of the head follows as a consequence of inflamed vein, we must combine constitutional remedies with our local ones. Bleeding may be advisable in very urgent cases, but most of them, I think, will yield to purgative, laxative, and sedative medicines. I had a case, two years ago, in which, after profuse secondary hemorrhage, an affection of the brain so considerable came on, that the patient (a cart mare), if moved about, would stagger and even fall down from giddiness of the head. A smart purgative was given, followed by small doses of aloes with digitalis, &c. &c., and blistering the neck, and the case did well.

I have heard and read of a succession of abscesses forming in the course of the vein, which have been very troublesome to heal; and in order to get rid of them, even taking up the vein is recommended. I have never met with such cases in my practice: sometimes an abscess will form at the orifice, and occasionally one or two in the course of the vein; but I have found these to heal with no great difficulty, by injecting a solution of nitrate of silver or sulphate of zinc into them, keeping up the action of the blister over the vein so long as any appearance of inflammation exists.

THE POISONING OF SEVEN HORSES BY THE ARSENIATE OF POTASH.

Communicated to the Royal Academy of Medicine,

By M. BOULEY, Jun., V.S., Paris.

ON the 9th of October, 1834, some horses belonging to M. Lamy were hired to convey certain goods to be deposited at his warehouse for one night, and then forwarded to their ultimate destination. These goods were contained in four packages, three of which were placed on the floor of the stable, and the fourth on an open cask filled with corn for the horses.

At five o'clock on the following morning this packet was taken off the barrel, without its being perceived that the bottom of it was torn, and oats were given to seven horses that were in the stable. An hour afterwards, the corn for these horses during the day was placed in their respective nose-bags (sackets), without its being observed that any thing was mixed with it; and which may be easily conceived to have been the case in a stable situated in a little court, surrounded by lofty houses, and into which the light could only be admitted from the part that opened into the court; and that the barrel containing the oats had been placed behind the door.

At seven o'clock the horses went to their usual work, the carriage containing, among other things, these four packets. The day passed on; they ate their rations as usual, and did not exhibit the slightest symptom of illness.

At 4 P.M., one of these horses started for Versailles. The driver carried with him a measure of corn taken from the same barrel, and which was given to the animal when he arrived at the end of his journey. At 9 P.M. he set out on his return, and having passed Serres, the driver fell asleep, and did not awake until he came to Point-du-Jour, between eleven o'clock and midnight, when he was roused by the sudden falling of the horse. He hastened to loosen him from the shafts, but his cares were useless: the animal expired in a few moments.

The six horses that were left at Paris did not return from work until about eleven o'clock. Their ordinary feed of bran and oats was given, but they did not eat it with their usual appetite. At midnight three of them were seized with violent colic, accompanied by almost continual diarrhœa.

M. Lamy sent hastily for a farrier, who, alarmed and surprized at seeing three horses so dreadfully ill at the same time, promptly,

and much to his credit, immediately examined the corn barrel, in which he found (to use his own expression) several little white stones. On tasting one, he was surprised at its acidity; and, without knowing the composition of these stones, he decided at once that the horses were poisoned. The corn merchant who had furnished the oats during the two preceding days was sent for, and the suspicion that was entertained respecting these animals was communicated to him. He unhesitatingly affirmed that he had not sent any thing that could possibly have been injurious to the horses. Less cautious than the farrier, he tasted a greater quantity of this apparent stony matter, and was presently seized with colicky pains, which, fortunately for him, were not attended by any fatal consequence. It was then, for the first time, recollected that one of these packages had been placed during the preceding night upon the oat barrel, and it was also remembered, that when the waggon was loaded in the morning, one of them was observed to be torn. There could no longer be any doubt that the horses had been poisoned.

By the advice of the farrier, two of the horses were immediately sent to the establishment of M. Colles, a veterinary surgeon. One of them died immediately after entering the infirmary, and the second expired an hour afterwards in dreadful agony. The third, which had remained in the stables of M. Lamy, died at 4 A.M., after struggling violently for a long time.

Soon afterwards three other horses exhibited the same symptoms, and at 8 A.M. on the 11th I was sent for.

I examined them carefully. Two of them appeared to me to be in a desperate state. They were considerably swelled; they had violent colic, frequent diarrhœa, difficult respiration, the pulse not to be felt, and the extremities cold. The third was not so much swelled, and, although he had diarrhœa like the others, his colicky pains did not seem to be so violent; his pulse was regular, and he searched for something to eat; in a word, there was nothing to indicate immediate danger with regard to him, and we shall presently see that he lived considerably longer than the others. Before I prescribed any kind of treatment, I examined the salt that was found among the oats. By the appearance of it, and especially by its weight, I recognized a metallic salt. I sent to the merchant from whom it had been received, demanding what mineral compound it was: he replied, in writing, that it was *arsenate of potash*. There could no longer be any doubt that the horses had been poisoned, as the farrier had suspected.

Not being acquainted with any approved antidote against the poison of arsenic, and knowing that the other horses had been

given up and had died, I contented myself with prescribing mucilaginous drinks, and emollient injections, and said that I would see my patients again during the morning.

Although I had no reason to doubt that the salt by which the horses had been poisoned was arseniate of potash, as the merchant had said, yet I was determined to ascertain the truth of the fact, and went immediately to M. Labarraque, with whom I had the good fortune to meet M. Chevallier. I asked them to analyze the substance which I presented to them; they kindly consented, and the following was the result:—

“The salt was white, very heavy, and crystallized in a confused way. 1. Being thrown upon charcoal, it decrepitated, and a strong odour of garlic was perceived. 2. Being dissolved, the nitrate of silver threw down a *brick-red* precipitate, the sulphate of copper a *blueish-white* one, and the neutral hydrochlorate of cobalt a *rose-coloured* one. 3. Being treated with sulphuretted hydrogen, with the assistance of heat, yellow sulphuret of arsenic was precipitated. 4. It strongly reddened turnsole paper. All these characters shewed plainly that it was an *arseniate*.”

Wishing to know its base, we made a concentrated solution of the arseniate; to one portion of which we added, some chloruret of platinum, and a yellow precipitate was immediately formed. Another portion we tried with potash, which neither yielded any precipitate, nor any disengagement of ammoniacal gas.

These experiments assured us that the substance was *arseniate of potash*.

This analysis being terminated, by the advice of MM. Chevallier and Labarraque we had recourse to the hydrated trioxide of iron that had been lately recommended as an antidote against arsenic by Drs. Bangen and Berthold, of Gottingen. It was administered to each horse in the dose of about $1\frac{1}{2}$ ℥, and beginning with him that seemed to be in the most dangerous state. He died in six hours after having taken the antidote; the second died at the end of 37 hours; and the third lived until the eighth day.

I now proceed to give an account of the principal lesions observed in these animals on examination after death; and I will take them in the order in which they died.

1. An entire horse, which died on his return from Versailles to Paris, about 13 hours after ingestion of the poison. The abdominal viscera were in their natural position; the peritoneum reddened, and the vessels that run along the intestinal bands highly injected. The stomach contained a yellow fluid, which was preserved; the mucous membrane lining the right sac was of a red colour, approaching to scarlet; it had spots of ecchy-

mosis in various places, as large as a franc : the sub-mucous tissue was injected, and that injection extended to the muscular coat. The small intestines contained a great quantity of milky fluid, but no other sensible lesion. It was the same in the cæcum. The mucous membrane of the colon, on the contrary, was of a deep red through its whole extent ; and this intestine contained a very thin fluid. The bladder contained a great quantity of highly-coloured fluid, which was also preserved : the mucous membrane of the bladder was highly injected. The lungs were sound, the heart of its ordinary size, and its ventricles were filled with fibrinous clots. The right ventricle and the auricle offered no lesions ; the left ventricle presented a great number of ecchymoses, of a pyramidal form, which extended from its base to its point. The vessels of the membranes of the brain were highly injected. There were several ecchymoses on the arachnoid membrane. The substance of the brain offered no sensible change. The vertebral canal was not opened. The fluids contained in the stomach and bladder were submitted to strict analysis, but not the slightest trace of poison could be discovered.

2. Likewise an entire horse, died 14 hours after taking the poison. The stomach was distended by a great quantity of indurated food ; and the peritoneal membrane of this viscus was torn at its greater curvature nearly three inches in length. The mucous membrane of the right curvature was red, and injected in a few places ; and this was the case with the lining membrane of the small intestines and cæcum. The diaphragm was ruptured in its muscular portion, near the xiphoid cartilage. There was no effusion of blood either in the chest or abdomen : it is therefore probable that the rupture took place at the moment of death, and that this animal was not only poisoned, but laboured under an evident attack of indigestion. The lungs were sound ; but here, also, there were numerous ecchymoses in the left ventricle of the heart, extending from the auriculo-ventricular orifice to the point of that viscus.

3. A gelding ; died 15 hours after taking the poison. There was evident inflammation on the internal surface of the right curvature of the stomach, and on the mucous membrane of the colon. The small intestines and the cæcum were sound ; the bladder was injected ; the left ventricle of the heart was studded with ecchymoses, and there were fibrinous clots in its cavity, and in the posterior aorta.

4. A gelding ; died 17 hours after taking the poison. There was redness and thickening of the mucous membrane of the alimentary canal, from the right curvature of the stomach to the

floating portion of the colon. The lungs were sound ; the heart enlarged, and the left ventricle highly ecchymosed at its base.

5. An entire horse ; died 32 hours after the poison, and six after the administration of the antidote. The stomach contained its natural quantity of food, on the surface of which were, here and there, black spots : the mucous membrane of the right curvature of the stomach was highly injected. The small intestines were filled with a blackish-green substance, which seemed to be the counter-poison, mixed with the natural contents of the intestines : the mucous membrane was red, as was that of the colon. The left ventricle of the heart presented the same ecchymoses as in the others.

6. An entire horse ; died 54 hours after the poison, and 36 after the antidote. The stomach and small intestines contained a black-green fluid, as in the last horse. All the viscera were inflamed ; and the left ventricle of the heart had the same ecchymoses.

7. An entire horse ; died nine days after the poison, and eight days after the antidote. The peritoneum generally was red ; the epidermoid membrane of the left curvature of the stomach peeled off in flakes ; the mucous membrane of the right curvature was ecchymosed and softened ; the muscular coat was of a purple-red colour. The small intestine was filled with a black foetid mass ; there was no change in the cæcum, but the membrane of the colon was thickened and congested with blood, particularly at its pelvic cavity. The heart swam in a bloody fluid ; the right ventricle was filled with blood, and its membrane was reddened : the left presented numerous ecchymoses, but not so dark or so large as in the other cases.

It results from this—

1. That the seven horses were, without doubt, poisoned by the arseniate of potash.

2. That the presence and agency of this poison was manifest in all of them by violent colic and diarrhœa, the latter of which ceased only with the life of the animal.

3. That inflammation was found either in the stomach, or the intestines, or the bladder, or in all of these viscera at the same time.

4. That in all these animals ecchymoses were observed at the base of the left ventricle of the heart, unaccompanied by any lesion of the same kind in the other cavities.

5. That the matters contained in the stomach and bladder of the first horse did not exhibit any trace of poison.

6. That the hydrated trioxide of iron was administered to three of them as an antidote, but without saving the life of either of them.

Was the prolongation of the life of the last horse attributable to the influence of the counter-poison, or to the animal having taken a less quantity of the arseniate? This question, perhaps, cannot be answered satisfactorily. It is not, however, fair to draw any conclusion unfavourable to the supposed antidote, because it was not administered until 28 hours after the poison had been taken.

These cases give rise to an inquiry of the highest importance. When a law, not too severe, forbids the sale of poisons except sanctioned by the prescription of a physician, under the fine of 3000 francs, ought the most active of them to be sent every day on the public road without the slightest precaution? The Council General of Health is beginning to occupy itself with this important question. The solicitude of these learned men for all that interests the public health, is a sufficient guarantee of the propriety of the measures which they may adopt.

Recueil, Sep. 1834.

CONSULTATION.

COLIC—ENTERITIS—PNEUMONIA.

By Mr. B——.

I HAVE been attending a mare belonging to Mr. W——, farrier, in this neighbourhood. She was observed to be ill on the morning of the 12th of October. I was sent for at 11 o'clock A.M., and on my arrival at the stables, found the mare labouring under spasms of the intestines. I then inquired of Mr. W——, and the servant who drove the mare, concerning her previous treatment, and the state of her bowels before her illness. They told me that she had been very hardly worked, and fed wholly on dry corn and straw; but that they had paid little attention to her bowels.

The spasms appeared to be caused by the new straw, for there was no cold suddenly applied to the surface of her skin, nor cold water to the inner surface of her intestines while she was hot; nor was there previous costiveness, so far as I could learn. The symptoms were not so violent as in colic generally.

Treatment.—I abstracted blood, three pints and a half Scotch (seven quarts); gave three drachms of Barbadoes aloes in solution, and two ounces of tincture of opium. I fomented her belly, and threw up clysters, by which means the spasms became relaxed, and the pain abated.

450 CONSULTATION—COLIC, ENTERITIS, PNEUMONIA.

I left the mare apparently well, though not eating much, at nine o'clock P.M., with orders to observe her before they went to bed.

13th.—The mare having been again taken ill during the night, I was sent for at six o'clock A.M., and on my arrival found the spasms more frequent and protracted, and the pulse 58 and very hard. I again abstracted blood, three pints and a half Scotch; gave five drachms of Barbadoes aloes in solution; fomented her belly; back-raked her, and threw up clysters very frequently.

In this way we emptied her bowels of much dry fæces and unmasticated corn, that seemed to have been impacted in them. The mare having no appetite for mash or tepid water, and the constipation not being overcome to my satisfaction, I gave afterwards, at three different times, one drachm of aloes in two quarts of tepid water.

14th.—At nine o'clock A.M. the physic operated, and the violent symptoms of pain abated, leaving the mare dull and quiet, with very little appetite. She continued in that state till seven o'clock P.M., when she was seized with a rigor or cold fit, during which I gave her two drachms of sweet spirit of nitre, applied friction to her body generally, and bandaged her legs, which were clay cold: but a hot fit speedily succeeded, with laborious breathing, and the pulse rose to 80, but was small. The labour of breathing soon went off, but the pulse rather increased. I gave two drachms of tartar emetic, and three drachms of nitre.

15th.—There were no local symptoms until 10 o'clock P.M.; when her lungs appeared to me to be seriously affected. The pulse was 85, and somewhat oppressed, and the limbs cold as ice. I abstracted blood one pint Scotch (two quarts); blistered her sides, bandaged her legs, hooded her head, and endeavoured, as far as possible, to equalize the circulation. I then gave one drachm and a half of digitalis, with two drachms of nitre.

16th.—She appeared a little easier, but very weak, and without appetite.

17th.—She was extremely weak; there was a peculiar twitching of the muscles of the left shoulder, a grating of her teeth, a strange irregular action of her heart, and a fluttering pulse, accompanied with expressions of anxiety in her countenance.

18th.—She died this morning, at four o'clock.

Post-mortem Examination.—The intestines presented few marks of inflammation. There was dark venous blood injected into the cellular texture of the lungs, and inflammatory spots on their surface. The pleura generally was heightened in colour, and there appeared to be a more than ordinary quantity of serum

in the pericardium. In my opinion the lungs became the ultimate seat of disease, in consequence of her having caught cold during the action of the physic.

May I solicit your opinion of the treatment of this case, because Mr. W—— has been telling, in a secret way, to some of my employers, that I had bled his mare to death. In a country such as this is, where quackery prevails, such things are too likely to be believed; especially by individuals unacquainted with the rational treatment of disease. Eight pints Scotch, or nearly fifteen quarts English, of blood were taken away, during the six days' illness; and at each venesection I held my finger on the artery during the flowing of the blood, watching the effect produced.

I endeavoured to treat the mare according to the various symptoms as they arose; and I feel it my duty to arrest and repel this censure in its infancy. I hope that your reply will convince Mr. W—— of his mistake, and also enhance the character of the school from which I emanated.

I have a pretty extensive practice, and have been moderately successful. I have not lost a horse, except the one respecting which I am writing to you. I take notes of every case I attend; and, when I am not otherwise engaged, I revise them, and read the best authors I can procure. Some of my most respectable employers are anxious to hear your opinion of the treatment of this case.

I have no hesitation in stating, that the patient referred to did not suffer by the bleeding; on the contrary, had I been consulted, I should have been much inclined to have taken away more blood. I doubt whether any treatment could have saved the mare.

My young friend must not expect to get through the world without, in some cases, incurring blame where he does not deserve it. Most people are, in some measure, chagrined at the loss of a horse, and are always ready to complain if they think any error has been committed; and the more ignorant the owner is of that which is really proper, the more ready will he be to complain.

D.

This paper has been mislaid, or it would have appeared several months ago.

ON THE SPAYING OF MILCH COWS.

By M. LEVRAT, Lausanne.

IN May 1832, charged by the government of Vaud with the superintendence of the castration of the colts in that canton, the opportunity which this afforded me of repeating the experiments made in America on the spaying of the cow was too favourable to be lost. I extracted the ovaries from a cow destined to be slaughtered. She was not then giving milk, and therefore my purpose could not be fully answered; nevertheless, it was something for me to have studied the method of performing the operation, and to have assured myself of its pathological connexion and effect. I should, on another occasion, be enabled to practice the operation with more adroitness, and I should probably inspire more confidence in those who might think proper to employ me. The cow seemed a little depressed during the first two days after the spaying, but on the third day she had regained all her ordinary habits and spirits.

I was then anxious to operate on a cow that was in the condition indicated by M. Winn, *i. e.* about a month after her second or third calving*.

M. Francillon Michaud, to whom I imparted this wish, requested me to make the experiment on one of his cows. She was six years old, and had her third calf. In the preceding years she had given eight quarts of milk at each time immediately after her calving, and six quarts some months afterwards.

On the 28th of June, 1833, she was operated on. She appeared scarcely affected by it, except that she did not eat quite so much during the two next days, and her milk diminished to four quarts; but on the third day she recovered her spirits and appetite, and yielded her usual quantity of milk. During the summer she gave nine quarts at each milking, and after that, when the green food failed, she gave seven quarts, although, in the preceding years, she had not been accustomed to yield more than six quarts at this season.

Encouraged by the success of the first experiment, M. Francillon begged me to spay a second cow. He chose an old one that gave plenty of milk, in order that he might be able to judge of the effect of the operation on old cows. She was at least twelve years old, and had had two calves in the preceding Oc-

* See an interesting paper on this subject in *THE VETERINARIAN*, vol. vii, page 569.

tober that had been got from her with considerable difficulty, and she was accustomed to yield, on the average, about eight quarts of milk. She was operated upon, on the 18th of November, thirty-three days after calving, and she was then yielding twelve quarts of milk. After the operation she yielded only nine quarts of milk ; but it is right to say, that she had a purulent discharge from the vulva, and that she did not eat with the appetite she was accustomed to do.

Writers on the spaying of the cow have not described the manner of performing the operation ; and it is well known that the ovaries do not retain the same situation in all animals. Daubenton was the first who described the spaying of the sheep ; but the method which would be pursued with regard to the sheep would not be applicable to the cow. It is on this account that I feel disposed to relate the method which I pursued in spaying these animals.

The operation ought to be performed between thirty and thirty-eight days after calving, and on a cow that had just had her second or third calf, because that is the age and time when she yields the greatest quantity of milk, and retains it during the longest period. No preparation is necessary, except the refraining from feeding her so plentifully as usual on the night before the spaying, and to operate in the morning before she was fed. The necessary implements are ropes, a plank or bar of wood, two bistouries (one convex and very sharp, the other probe-pointed and straight), two curved needles, some strong thread well waxed, and a plank or bar of wood, about eight inches wide and three in thickness.

In order to operate safely and well the cow must be properly secured. To effect this, she must be placed against a wall with her left side towards the operator. Three strong rings should be fixed in the wall with straps and buckles attached to them ; one for a cord to confine the head, the two others should be placed lower, the one on a level with the lower part of the right shoulder, the other at the point of the hock. A cord should be passed in front of the chest, brought along the left side of the body of the cow, passed behind the thighs, and fixed to the buckle which is on a level with the hock, or rather an assistant should hold the end of the rope passed once around the ring. The head is to be fixed by a turn of the cord, which is to be held by a strong man. Then the plank or bar of wood must be placed obliquely under the teats and in front of the hind limbs : an assistant holds this so that the operator may be safe from the kicking of the animal : finally some one holds the tail, or it is tied to the rope that goes round the patient, in

order to escape the blows which the animal would give with it when the arm was passed into the abdomen.

In default of a wall provided with rings and buckles, a strong palisade will do, or any solid barrier, or trees growing at a convenient distance from each other, and to which a strong bar of wood may be fixed.

The animal being secured, the operator, armed with the convex bistoury, which he holds in his right hand, places himself at the left shoulder of the cow, with his left hand resting on her back. That hand serves as a point of support for him to retire or rest upon, if it should be necessary, during her struggles, and also enabling him to use his right hand more effectually. He then places the edge of the bistoury on the middle and a little nearer the superior part of the left flank, and at one incision cuts through the skin and the muscles of that part vertically.

The flank having been opened, and the peritoneum with it, the operator enlarges the incision so as to be enabled to introduce his hand and arm. Taking the bistoury in his left hand, he now gently and cautiously introduces his right hand into the abdomen, directing it towards the pelvis, and behind the cul de sac of the paunch, where he will find the horns of the uterus. When he has recognised this viscus, he carries his hand a little above its bifurcation, where the ovaries are situated between the folds of the suspensor ligaments of the uterus; he seizes one of the ovaries, which he detaches at its posterior part, by means of the thumb and fore finger, and he passes his finger along the convexity of the ovary, in order to separate it completely from the peritoneal ligament which sustains it. Then he takes the ovary in his hand, he draws it gently towards him, and by means of the thumb nail, he saws the vessels and the horn of the fallopian tube on his fore finger, which offers him a point of support under these vessels: finally, he breaks the cord by successive gentle tugs at it, while he is sawing it with his nail; and he thus brings out the ovary.

He next introduces his hand a second time into the abdomen, and proceeds to extract the second ovary in the same manner, after which he closes the wound with two or three sutures, taking care to leave a little opening at the lower part of it, through which the matter of suppuration may escape, and which, without this precaution, would burrow between the skin and the muscles, or accumulate in the abdomen, and be a cause of irritation, and probably of danger.

The ovaries may, if the operator likes, be brought through the opening made in the flank, and detached by the points of the fingers; but this manipulation may sometimes be attended

with inconvenience: besides, it is not more expeditious than that which I have described, because it sometimes happens that the ovary escapes from the grasp, and the arm must be once more introduced into the belly in order to find it again.

Two or three days after the operation the wound may be dressed. The dressing consists in fomenting around the wound two or three times every day, and in hot weather injecting a little of l'eau de Labarraque (a solution of chloride of lime). A pledget of tow should be placed daily over the wound itself, and the stitches occasionally tightened. The wound will usually be quite healed in the space of fifteen days, or three weeks at most.

The cows on which I operated at the request of M. Francillon were all attended upon, and the wounds dressed and healed by himself: there is, in fact, very little skill requisite in this stage of the business.

From the observations which I have since been enabled to make, I should offer the following as the advantages to be expected from spaying milch cows.

1. An increase of at least one-third in the production of milk.
2. The certainty of having a nearly equal supply at all times.
3. Escape from all the chances and accidents that accompany utero-gestation and parturition.
4. Escape from the accidents which happen to cows during the period of heat, arising from their riding and worrying one another, or their being injured by too large a bull.
5. The disposition to fatten more readily, and to greater extent, when their milk begins to fail.
6. The saving of an expense, often considerable, arising from barren cows, and which, in some districts, and on some farms, either from the influence of breed or bad management, occurs to almost every cow once in two or three years. As an illustration of this, I may mention, that, in the neighbourhood of Lausanne and Lavaux the farmers are often obliged to change their cows, an expense almost ruinous to them.

Recueil, Feb. 1834.

THE VETERINARIAN, AUGUST 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

A REPORT OF THE TRANSACTIONS OF THE VETERINARY SCHOOL AT LYONS, DURING THE YEAR 1833.

AMONG the maladies which oftenest come under notice in our locality are glanders and farcy in the horse; an inflammation of the mucous membranes peculiar to the dog; and mange and other cutaneous eruptions. Rabies in the dog is also a disease of frequent occurrence; and as it is communicated from the dog to the solipede and other species of animals, we have frequent opportunity of observing it in them.

The influence of the atmosphere, and of particular seasons, is evident in other complaints, which vary their symptoms, and connexions and consequences, according to the continued or varied state of the air, its temperature, and the regularity or irregularity of the seasons: among diseases of this class are pleurisy, pneumonia, bronchitis, and croup.

Horses employed in draught, whether along the canal or on the road, or in the conveyance of passengers, whether by coach or on the railway, furnish us with the opportunity of observing particular diseases which in their nature and character have evident relation to the service in which the animals have been employed.

The general dryness of the weather and the elevation of the temperature have prevented the development of GLANDERS and FARCY; at least we have had a considerably less number of these diseases to treat than on preceding years. It should also be remarked, that if glanders has not been more tractable than usual, it has remained longer in its subacute form without exhibiting its more formidable symptoms; and it should not be forgotten, as a circumstance having some influence in producing this mild type

of the disease, that the corn and grass, although small in quantity, were well got in, and of excellent quality.

Some cases of recent local glanders were cured, to the effecting of which repeated bleedings from the facial veins, and setons placed in the chest, seem to have contributed.

We have employed *turmeric* in the cure of farcy, in doses of from one to two ounces, according to the size of the horses, in a bottle of dry white wine; but this medicine, although some empirics secretly employ it as a specific in this disease, does not appear to us to have more efficacy than the *galangal* so long and so generally given by our farriers. Far from its being beneficial, we have found that, after it had been regularly administered during fifteen or twenty days, the horse began to lose his appetite, the skin became hot, the coat stared, the pulse was accelerated, the bowels were constipated, and we were compelled to discontinue it. We have always thought that this medicine could suit the constitution of animals of a lymphatic temperament alone, and in whom the system fell into a state of atony during cold and humid seasons.

We have had four cases of *RABIES* in the horse. In three of these animals the malady was communicated by the bite of a dog. In one of them, that had been bitten through the alæ of the nose, and whose wounds were cauterized with a red-hot iron on the following day, the disease appeared on the twenty-sixth day. He was preserved during two days, in order that the owner might have an opportunity to observe the symptoms of the disease; but then, having broken his halter, and beginning to demolish every thing about him, he was destroyed. We had no opportunity to examine him after death.

In the other three horses, and which were brought to our infirmary, the disease pursued its usual course, and lasted from two to four days. It commenced in all of them with convulsive movements of the upper lip, particularly towards the angles of them—the expression of the countenance was that of depression; but, all at once, whether some one approached one of them, or from an unknown cause, the eye would become animated, wild, menacing—he would extend his head, in order to bite the person,

and, unable to accomplish this, he would seize the bucket, the corner of the manger, or the bars of his rack, and gnaw and shake them with fury. To this momentary access of nervous irritation a calm succeeded. From time to time different parts of his frame would seem to be strangely stimulated. There would be rigor and general shivering; then, convulsive movements of the eyes, grinding of the teeth, convulsions of particular limbs; stamping of the feet; involuntary biting, sometimes at imaginary objects. To these, perhaps, would follow temporary but excessive labour in breathing; contractions of the muscles of the belly, giving it a strangely tucked-up appearance; affections of the lumbar muscles bowing the back; involuntary emission of urine; violent tenesmus, &c.

Neither of these horses expressed any dread of water, nor did their appetite altogether cease. The cephalic organs, the mucous membranes of the first passages, and the serous splanchnic membranes were the only parts that offered any trace of inflammation.

Restraint seemed much to abridge the duration of the disease: it was only necessary to put on the hobbles, and to cast the horse, in order to destroy him in a few hours.

TETANUS occurred in a dog, two horses, and two asses. In all of them the spasmodic tension of the muscles had reached to all the exterior parts of the body, and locked-jaw was perfectly established before they were brought into the infirmary. The disease existed from two to three days—in one of them six days had passed since its commencement. The dog and one of the horses died—the other horse and the two asses were cured.

We did not have recourse to bleeding, either general or local: all the treatment consisted in emollient anodyne fumigations the vessel being placed under the body, dry frictions, coverings of sheepskins, the administration of warm water sweetened with honey, and electuaries composed of honey and manna and small quantities of opium. We have given as much as a pound of honey in a day. The honeyed water was injected through the interdental space by means of a syringe with a curved canula; the electuary was introduced into the mouth

in the same-way, a little at a time. The rectum was emptied three or four times in the day with the hand, and frequent injections of decoction of marshmallows or honeyed water were administered.

Towards the third, fourth, or fifth day the patients generally began to suck up some moisture, and a few days afterwards they drank with tolerable ease. The trismus having relaxed, we were enabled to give them a little bread, and, perhaps, some hay. The muscular coat of the intestines also then began to act a little, so that, after the stimulus of the hand, it would contract upon itself, and a few very dry pellets would be evacuated.

It was about the fourteenth or fifteenth day of the illness when copious sweats spontaneously broke out on the horse; and, from the moment of that critical evacuation, the symptoms of amendment became more evident. No augmentation of the cutaneous secretion, nor of any other evacuation, was evident in either of the asses. One of the asses, both of which came into the hospital on the 16th of July, was able to return to his work on the 10th of the following month; the other was then convalescent, and could lie down and raise himself with a little help.

During the course of that summer, the hottest weather generally occurring when the wind blew strong from the north or the east, there were sudden alternations of unusual cold. This produced a crowd of inflammations, whether of the pleura or pulmonary tissue, or the mucous coat of the respiratory passages, as LARYNGITIS, PHARYNGITIS, and BRONCHITIS. The maladies presented a character purely inflammatory, and with few dangerous complications; that is to say, the treatment was generally followed with success, when it was resorted to at an early period.

A case of laryngo-tracheitis, accompanied with a loud, hoarse sound in the act of breathing, and that would not yield to bleeding, was cured by the application of a blister to the throat.

An intense pharyngitis, with enlargement of the sub-parotid gland, and extending over the upper part of the left side of the neck, having been neglected at an early stage, terminated in an indurated tumour that resisted every application, and became a mechanical cause of compression of the œsophagus. Deglutition having become impossible, the animal died of inanition.

The cases of PLEURISY and PNEUMONIA which we observed, offered few complications; the character of acute inflammation which they exhibited being recognized, demanded the promptest treatment. We well know, however, that the people who have the management of horses are not aware that any thing can be wrong while the animal retains his appetite; and, therefore, it happens that disease of the chest is often fatally developed and confirmed before the patients are brought to the infirmary; consequently many of them die between the third and fifth days. Those that were saved began to get well between the ninth and seventeenth days. Two of them could scarcely be said to be convalescent before the 31st and 36th days.

In many of these cases we have derived very great advantage from the use of immediate auscultation, and of percussion.

Seven cases of PHLEBITIS of the jugular vein came under treatment. Some of them were very serious, and had already produced a varicose state of the veins of the face. These inflammations were, at length, cured by laying open the sinuses of the wound; yet not without some embarrassing circumstances in the course of treatment; by the application of an emollient anodyne cataplasm during a sufficient time to remove the pain and tension of the tumour; and then by running a pointed iron, red-hot, for an inch at least along the thickened parietes of the vessel.

One of these horses had a slight attack of apoplexy, and was convulsed, and fell in his stall: a bleeding from one of the saphenas and the application of refrigerants to the head relieved him. Some days afterwards one of the coagula, which filled a wound made by the cautery, having been detached, a troublesome hemorrhage ensued: it was arrested by compression, the application of astringents, and a diet of gruel which needed not the use of the lower jaw.

In another, the cauterization, a little too near the pharynx, caused an inflammation of that part, which lasted eight or ten days, and almost entirely prevented deglutition. During the whole of that time a pellet of hay, however thoroughly impregnated with saliva, could not be swallowed. The horse was kept on gruel, sopped bread, bruised oats, and then, by degrees, on chaff.

Two abscesses opened on the neck of the third horse, in the part that had been cauterized, and after the entire healing of the wound.

Notwithstanding these occasional inconveniences attached to the application of the cautery, experience has shewn that this method of treating phlebitis of the jugular is to be preferred to every other.

I do not know whether it is to be attributed to the sharpness of the air or to the coldness of the nights, or to the eagerness with which dogs will rush into the water in the heat of summer, but a great many dogs have been subject to RHEUMATISM in the joints during the present season. Larger animals have not been exempt from this disease.

The affected parts have been covered with flannel, and, sometimes, leeches have been applied round the joints of smaller animals : rest has been recommended for the larger ones, and embrocations of opiated oils. When the pain has obstinately continued, the cautery has been applied lightly over the part, or setons have been passed in the neighbourhood of it. This mode of treatment has succeeded in a great many cases.

The iron railways, that exhibit the rapid progress of human industry, and which facilitate all the relations of commerce, have, for the present at least, been unfavourable to the horse. It is easy to see that the numerous carriages which traverse these roads, impelled with such velocity, and so heavily loaded, demand the employment of active horses, and must occasionally be productive of serious accidents. Some of the horses have been destroyed on the spot, others have received CONTUSIONS and SEVERE WOUNDS.

A great many of these cases have come before us in which large lacerated wounds had been inflicted, and occasionally the enormous muscles of the croup and the thighs had been cut through.

The low waters of the Saône, and the hard work and great fatigue which the horses employed in drawing the barges on that river have endured, have been the cause of various serious and fatal diseases. Five or six have perished, having first been attacked by violent pain (*l'endolorissement*) of almost every part

of the body, and particularly of the feet. These animals soon begin to stagger in their gait; the surface of the body becomes cold; the conjunctival membranes exhibit a suffusion of a mingled yellow and deep red colour; the animal becomes blind; the pupils are dilated; deafness soon follows; the fæces are covered with thick mucus; and a little while afterwards he falls, and dies.

This series of symptoms indicates an impairment of muscular power—the development of general fever (*gastro-entérite*), diseased secretion of bile, and a determination of blood to the head which destroys life. Whether it be that the medical treatment has commenced too late, or that it has not been sufficiently energetic to meet such a complication of evils, we have not been able to save a single patient.

Among the number of serious accidents we may mention a wound penetrating the abdomen in a mule—the accidental opening of an umbilical hernia and perforation of the intestine—and an enormous wound under the chest caused by the sudden breaking of an oak plank.

In the first case, the wound was in the left hypochondriac region, a few inches from the cartilaginous circle of the ribs; it was produced by the prong of a fork. The finger being introduced into the wound touched the diaphragm, and a slight solution of continuity could be felt. A portion of epiploon which protruded was returned; two sutures were practised, one through the muscles of the belly, and the other through the skin: these were secured by a bandage. Considerable tumefaction ensued, which was combatted by the usual means; and afterwards an abscess burst. Eighteen days having elapsed, the proprietor ceased to bring the mule to be dressed; but, a month afterwards, it was brought again with a farcy-enlargement, the cicatrix of the original wound forming the centre of it. We treated the animal for farcy, and he was cured.

About the same time we saw a mare, thirteen years old, that had hernia of another kind. There had long been an umbilical hernia, which she had had more than ten years, and the sac of which had lately increased: it was now ruptured, and a portion

of intestine protruded which had also given way, and fluid alimentary matter was continually running out. The opening in the integument was enlarged, and the intestine examined, which offered a solution of continuity two inches in diameter. A suture was passed through it; and it was returned: a suture was also effected through the integument, and which was supported by a bandage. This animal, however, was in such a state of debility that no healthy inflammation could be excited in the parts: the alimentary matter continued to run, and the mare died on the thirteenth day. On examining her after death, it appeared that this ruptured intestine belonged to the cæcal portion of the ilium. It adhered by a dense cellular tissue to the abdominal tunic, for an extent of three or four inches; and a large hernial sac was formed, torn towards its bottom, and containing this portion of intestine.

A large horse was brought to us on the 28th of February, holding the right fore-leg as far as possible apart from the other, and moving with evident pain. A wound was perceived on the right side of the chest, three or four inches in diameter; its borders elevated and protruding, and blood slowly flowing from it. There was considerable emphysema about the chest, forearm, and neck. On introducing the finger, a foreign body was detected, and which could likewise be felt by the hand, passing under the skin in a direction towards the girth. The respiration was laborious; the pulse hard and frequent; and the countenance of the animal expressed great suffering.

We dilated the wound sufficiently to enable us to seize the piece of wood, for such it was, and to extract it. It was nine inches long, an inch thick, three inches wide at the part nearest to the wound, and an inch and a half where it first began to penetrate into the flesh. A double surcingle was put on, and compression made on the whole extent that had been occupied by the wood: emollient and anodyne lotions were employed; a copious bleeding was effected; and a rigorous diet enforced. A considerable inflammatory swelling came on, and the fomentations were increased.

On the fourth day the suppuration was abundant, and the wound was dressed with dry tow alone. No fever ensuing, the

horse was allowed half his usual food. Some days afterwards the integument appeared to adhere to the parts beneath through the greater part of the extent of the wound; but an abscess formed in one part: it broke, and some small pieces of wood were discharged with the pus. On the 19th day the horse quitted our infirmary, nearly cured.

On the 18th of June, a mule belonging to a manufacturer at Neuville received a kick on the middle of the neck, and in the track of the left jugular. The contusion was treated by the application of cataplasms and emollient lotions. A swelling soon appeared and spread through the whole length of the neck. It was deemed necessary by the surgeon who was then attending the case to cauterize it with a red-hot iron, and to establish a connexion from one of the points perforated by the iron to another, by means of a large cotton thread introduced by a seton needle. From that moment deglutition became difficult: soon afterwards a small quantity of alimentary matter was returned through the nostrils, and a discharge of the same through the inferior orifice of the seton was not slow to follow: it was evident that the œsophagus had been perforated. The mule was then brought to our infirmary.

An opening was carefully made from one of these orifices to the other, when a considerable portion of aliment escaped. The two fore fingers being then introduced into the wound to the depth of an inch and a half, the carotid, adhering to an indurated subcutaneous cellular tissue, could be felt pulsating; and by the side of it was the œsophagus, the parietes of it also thickened, and in it was an opening an inch and a half in length, with fringed borders.

Sutures were ineffectually placed both in the œsophagus and the external wound: the tissues, in the highest state of inflammation, and which had led on to gangrene, gave way to the impulse even of the liquids which the horse swallowed: the strength of the system all at once gave way, and death ensued in the night of the 7th and 8th of July.

On inspection of the carcass, an anormal transposition of the carotid, the œsophagus, and the pneumo-gastric nerve was brought to view. A rudiment only of the sub-scapulo-hyoïdeus

muscle remained. The œsophagus, accompanied by the artery and nerve, about one-third of the way down the neck passed in front of the windpipe, and so they continued their course until the entrance of the œsophagus into the chest, where they re-occupied their ordinary situation. The parietes of the œsophagus were thickened and red as far as the diaphragm. The chest contained a considerable quantity of purulent fluid. The pleuræ were reddened, and covered by layers of albumen.

Two physicians in this city having expressed a wish to apply to animals the novel mode of treating the diseases of the human being, HOMŒOPATHY, we entered into their views, and the following is the result. We experimented first on the Distemper of Dogs, and under all its usual forms—as simple catarrh with increased secretion from the pituitary membrane, the conjunctiva, and the mucous membrane of the intestines, and with little or no cerebral affection—as a primitive inflammation of the cerebro-spinal system, shewn by fits, chorea, or palsy—as inflammation principally of the respiratory organs—and also under the form of pure gastro-intestinal inflammation.

Under each of these forms of Distemper we used minute portions of the substances employed in similar cases in the human being, as aconite, belladonna, &c.; but our experiments not being yet sufficiently numerous or satisfactory, we shall reserve our account of them until the next year.

We have received an interesting communication on VOMITION, produced in a young colt by having the stomach distended with green clover. It was conquered by means of emollient drinks often repeated; but, before it ceased altogether, it returned during several months, at intervals of fifteen or twenty days, and reduced the colt almost to a skeleton.

Another memoir has reached us on the inflammation of that portion of the pituitary membrane which lines the sinuses of the head and the horns. It is a most serious complaint, very frequent in the Pays de Vaud, and is probably produced by the animals being kept in very close hot stables, whence they are let out once or twice in the day, and probably travel a considerable distance in order to drink, and so get catarrh.

Recueil, Juin 1835.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Bridgewater Treatises, No. 4. The Hand—its Mechanism and Vital Endowments, as evincing Design.

By Sir C. BELL, K.G.H., &c. &c.—(Second Notice.)

IN our last review of this highly interesting and useful publication, we furnished our readers with a beautiful description of the anatomy of the horse's shoulder: we purpose, in this, to follow the learned author in his description of the comparative anatomy of the bones of the fore extremities. These bones form the most important part in the whole frame of the horse; they are the very main props and supports of the building; and if not sound to the core, the whole superstructure must fall. An intimate and thorough acquaintance, therefore, with the anatomy of the fore extremities cannot be too strongly recommended to all veterinarians.

Of the Humerus, or Arm-Bone.

The demonstration of this bone need not be so dry a matter of detail as the anatomist makes of it. We can see in its form the same curious relation of parts and wonderful design as Sir C. Bell, Paley, and Baron Cuvier observed in the human arm, and employed so successfully to prove design, and from which were brought out some of the finest examples of inductive reasoning. Sir Charles says, "judging from the appearance of this bone in the human skeleton—from the great hemispherical surface for articulation with the glenoid cavity of the scapula—the two tubercles near the joint being depressed, and not interfering with the revolving of the humerus, by striking against the socket, we are perfectly assured that all the motions of the arm are free; and that a geologist, on finding such a bone in the course of his researches, would conclude that it belonged to an animal that possessed great freedom and motion in the shoulder. But suppose that the bone found has a different character; that the tubercles project so as to limit the motion to one direction, and that the articulating surface is less regularly convex. On inspecting the lower extremity of such a bone, we shall perceive provisions for a deeper and more secure hinge joint at the elbow; and neither in the form of the articulating surface (which is here called trochlea), nor in the crest or spine on the outside, will there be signs of the rotation of one bone of the fore-arm on the other. We have, therefore, got the bone of an herbivorous quadruped, either with a solid or with a cloven foot."

Of the Radius and Ulna.

The same wonderful design is seen in the radius and ulna. There is, indeed, something highly interesting in the conformation of the whole skeleton of an animal, and the adaptation of any one part to all the other parts.

In the human subject there is great and easy motion of the hand, and we might imagine it to be in the hand itself; but, on the contrary, the movements are divided among all the bones of the extremity.

“The head of the humerus is rotatory on the scapula, as when making the guards in fencing; but the easier and finer rolling of the wrist is accomplished by the motion of the radius and ulna.

“The ulna has a hooked process—the olecranon or projecting bone of the elbow—which catches round the lower end of the humerus or arm-bone, and forms with it a hinge joint. The radius, again, at the elbow has a small, neat, round head, which is bound to the ulna by ligaments, as a spindle is held in a bush. This bone turns on its axis, rolling upon the ulna both at the elbow and wrist joint, and as it turns carries the hand with it, because the hand is strictly attached to its lower head alone. This rolling is what is termed *pronation* and *supination*.”

Now such a motion as this would be useless, and a source of weakness in an animal that had a solid hoof. Accordingly, in the horse these bones are united together, and consolidated in the position of *pronation*.

We are compelled to pass over much interesting matter on this subject, and hasten on to the

Last Division of the Bones of the Arm.

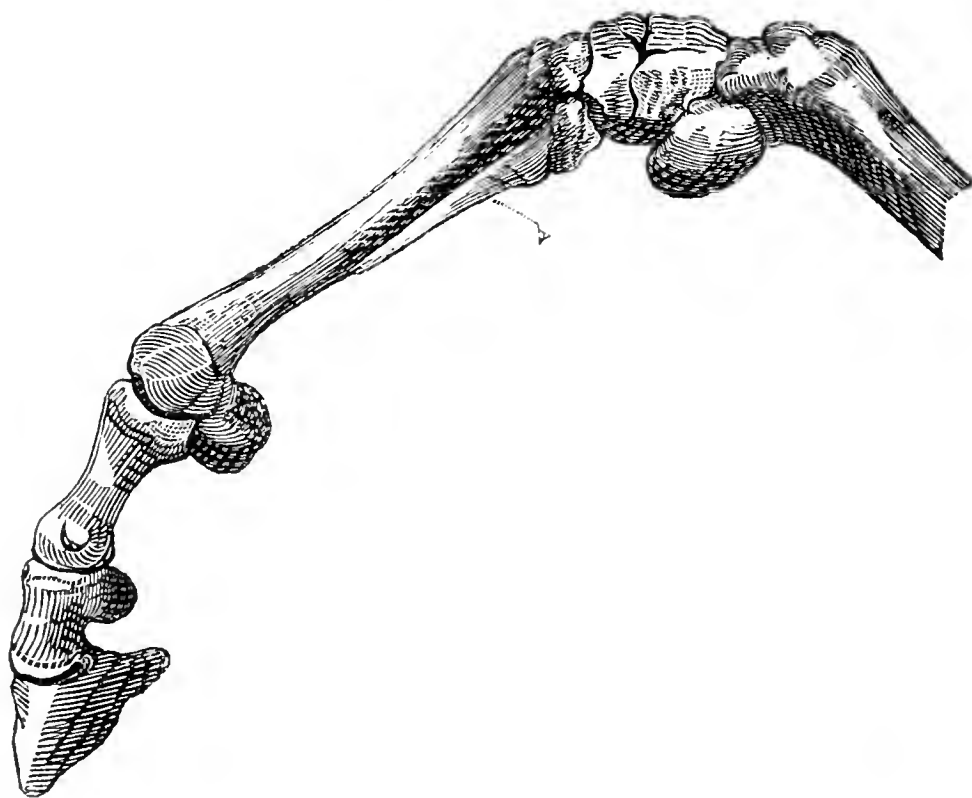
“In the human hand, the bones of the wrist (*carpus*) are eight in number; and they are so closely connected, that they form a sort of ball, which moves on the end of the radius. Beyond these and towards the fingers, forming the palm of the hand, are the metacarpal bones, which diverge at their further extremities, and give support to the bones of the fingers. The thumb has no metacarpal bone, and is directly articulated with the carpus or wrist. There are thus in the hand twenty-nine bones, from the mechanism of which result strength, mobility, and elasticity.”

We shall now compare these bones with those answering to the same in the horse, which are universally admitted to be of beautiful design, and calculated for strength and elasticity, and especially provided against concussion. Hear our author:—“The bones of the fore leg of the horse become firmer as we trace them downwards. The two bones corresponding with those of the fore arm are braced together and consolidated, and the motion at the elbow joint is limited to flexion and extension. The car-

pus, forming what by a sort of license is called the knee, is also newly modelled; but the metacarpal bones and phalanges of the fingers are totally changed, and can hardly be recognized. When we look in front, instead of the four metacarpal bones we see one strong bone, the cannon bone; and posterior to this we find two lesser bones, called splint bones. The heads of these lesser bones enter into the knee joint; but at their lower ends they diminish gradually, and they are held by an elastic ligamentous attachment to the sides of the cannon bone.

“I have some hesitation in admitting the correctness of the opinion of veterinary surgeons on this curious piece of mechanism. They imagine that these moveable splint bones, by playing up and down as the foot is alternately raised and pressed to the ground, bestow elasticity and prevent concussion. The fact certainly is, that by over-action this part becomes inflamed, and the extremities preternaturally joined by bone to the greater metacarpal or cannon bone; and that this, which is called a splint, is a cause of lameness.

“I suspect, rather, that in the perfect state of the joint, these lesser metacarpal bones act as a spring to throw out the foot when it is raised and the knee joint bent. If we admit that it is the quickness in the extension of this joint on which the rate of motion must principally depend, it will not escape observation, that, in the bent position of the knee, the extensor tendons have very little power, from their running so near to the centre of motion in the joint, and that, in fact, they require some additional means to aid the extension of the leg.



“Suppose that the head of the lesser metacarpal bone A enters into the composition of the joint; it does not appear that, by its yielding when the foot is upon the ground, the bones of the carpus can descend as long as they are sustained by the greater metacarpal or cannon bone. I do not, therefore, conceive that this bone can add to the elasticity of the foot. But when we perceive that the head of the splint bone is behind the centre of motion in the joint, it is obvious that it must be more pressed upon in the bent condition of the joint, when the foot is elevated, and that then the bone must descend. If the splint bone be depressed when the limb is raised and bent, and have a power of recoiling (which it certainly has), it must aid in throwing out the leg into the straight position, and assist the extensor muscles of the knee. Further, we can readily believe that when the elasticity of these splint bones is lost, by ossification uniting them firmly to the cannon bone, the want of such a piece of mechanism, essential to the quick extension of the foot, will make the horse apt to come down.”

For the benefit of non-professional readers we have given a sketch with the pen of the bones of the fore arm, the better to explain Sir C. Bell's theory. The medical practitioner, on comparing it with the hand of the human subject, will see that in the horse's leg the five bones of the first digital phalanx are consolidated into the large pastern bone; those of the second phalanx into the lesser pastern; and those of the last phalanx into the coffin bone.

We are prevented by want of space from discussing this new theory of Sir Charles Bell's; in a future number of *THE VETERINARIAN* we shall endeavour to explain his error: in the meantime the subject is open to our readers, and our pages ready to receive their remarks on the subject.

We are almost ashamed to extract any more from the author's pages, but the subject is one of such general interest, that we are tempted to finish our review by his description of the '*horse's foot*.'

“The horse, a native of extensive plains and steppes, is perfect in his structure as adapted to these his natural pasture grounds. When brought, however, into subjection, and running on our hard roads, his feet suffer from concussion. The value of the horse, so often impaired by lameness of the foot, has made that part an object of great interest; and I have it from the excellent Professor of veterinary surgery to say, that he never demonstrated the anatomy of the horse's foot without finding something new to admire.

The weight and power of the animal require that he should

have a foot in which strength and elasticity are combined. The elasticity is essentially necessary to prevent percussion in striking the ground; and it is attained here through the oblique position of the bones of the leg and foot, the yielding nature of the suspending ligament, and the expansibility of the crust or hoof. So much depends on the position of the pastern bones and coffin bones, that, judging by the length of these and their obliquity, it is possible to say whether a horse goes easily without mounting it. When the hoof is raised, it is smaller in its diameter, and the sole is concave; but when it bears on the ground it expands; the sole descends so as to become flatter; and this expansion of the hoof laterally is necessary to the play of the whole structure of the foot. Hence it happens, that, if a shoe be nailed in such a manner as to prevent the hoof expanding, the whole interior contrivance for mobility and elasticity is lost. The foot in trotting comes down solid—it consequently suffers percussion; and from the injury it becomes inflamed and hot: from this inflammation is generated a variety of diseases, which at length destroy all the beautiful provisions of the horse's foot for free and elastic motion. “This subject,” says Sir Charles, “is of such general interest, that I may venture on a little more detail. The elastic or suspending ligament, spoken of above, passes down from the back of the cannon bone along all the bones to the lowest, the coffin bone; it yields, and allows these bones to bend. Behind the ligament the great tendons run; and the most prolonged of these, that of the perforans muscle, is principally inserted into the coffin bone, having at the same time other attachments. Under the bones and tendon, at the sole of the foot, there is a soft elastic cushion: this cushion is the fatty frog, and rests on the proper horny frog, that prominence of a triangular shape which is seen in the hollow of the sole. The soft elastic matter being pressed down, shifts a little backwards, so that it expands the heels, at the same time that it bears on the horny frog, and presses out the lateral part of the crust. We perceive that there is a necessity for the bottom of the hoof being hollow or concave; first, to prevent the delicate apparatus of the foot from being bruised; and secondly, that elasticity may be obtained by its descent. We see that the expansion of the hoof, or properly the crust, and the descent of the sole, are necessary to the play of the internal apparatus of the foot. The crust is not equally elastic: the anterior part having to resist the whole strength of the animal, as in straining to drag a load, is very firm and inelastic, whilst the lateral parts and the heels expand under the pressure of the frog.

“That there is a relation between the internal structure and the

covering, whether it be the nail, or crust, or hoof, we can hardly doubt; and an unexpected proof of this offers itself in the horse. There are some very rare instances of a horse having digital extremities. According to Suetonius, there was such an animal in the stables of Cæsar; another was in the possession of Leo X; and Geoffrey St. Hilaire, in addition to those, says, that he has seen a horse with three toes on the fore feet, and four on the hind foot. Such a horse was not long since exhibited in town, and at Newmarket. These instances of deviation in the natural structure of the bones were accompanied with a corresponding change in the covering: the toes had nails, not hoofs."

We have thus far followed our author in his description of the horse's foot. These latter examples of his are to shew that there is a relation between the internal configuration of the toes and their covering; that when there are five toes complete in their bones, they are provided with perfect nails. When two toes represent the whole, as in the cleft of the ruminant, there are appropriate horny coverings; and that when the bones are joined to form the pastern bones and coffin bones, there is a hoof or crust, as in the horse, quagga, zebra, and ass. Speaking of the hoofs of animals, and of their sensibility, he says, "the human nail is a continuation of the cuticle, and the hoof of an animal belongs to the same class of parts. In observing the manner in which the nerves enter the hoof, we have, in fact, a magnified view of that which exists, but is only more minute and delicate in the cuticular covering of the fingers. We may take the horse's foot as the example. When the crust or hoof, which is insensible, is separated from the living part, we see small *villi* hanging from the vascular surface, and which have been withdrawn from the crust: looking to the inside of the crust, we perceive the pores from which these *villi* have been pulled. These processes of the living surface are not merely extremities of nerves; they consist of the nerves and the necessary accompaniment of membrane and bloodvessels on a very minute scale. For it must be remembered that nerves can perform no function unless supplied with blood, all qualities of life being supported through the circulating blood. These nerves, so prolonged into the hoof, receive the vibrations of that body. By this means the horse is sensible to the motion and pressure of its foot, or to its percussion against the ground; and without this provision, there would be a certain imperfection in the limb."

Traité de l'Age du CHEVAL, par feu N. F. GIRARD, Troisième Edition, publiée avec des changemens, et augmentée de l'Age du BŒUF, du MOUTON, du CHIEN, et de COCHON, par J. GIRARD.

[Continued from p. 417].

WE proceed to extract the account which M. Girard gives of the molar teeth of the dog, as connected with his age—not being so interesting, indeed, as the history of the incisors, but making the subject complete.

“Each jaw of the dog contains twelve molar teeth—six on the right side, and the same number on the left; but besides these there are two little supernumerary molars, placed between the tush and the first of the six true molars. These supplementary molars have the same fleur-de-lis form as the incisors. They generally continue only a certain time, and their loss is always attributable to external violence. The three first molars (*avant molaires*) above as well as below, are somewhat apart from each other. The anterior one is the smallest, and they gradually increase in size as we proceed backwards. Their upper surface presents, in the middle, a long pyramidal projection, well adapted to break and tear whatever has been received into the mouth. The first avant molar, whose root is unicuspid like the tush, is often wanting, or is broken, from the same cause as the absence or injury of the supernumerary one (*sur molaire*). The two other avant-molaires are subject to similar accidents, but not to so great a degree, from their being placed farther back in the mouth.

“The three posterior molars (*arrière molaires*) are permanent teeth. The first superior one is a large tooth, whose root has three branches: the body of the tooth extends lengthwise along the jaw, and its tuberos table or surface is distinguished by two considerable prominences or points. The second superior back molar is also a large tooth, extending its length along the side of the other, and its root has three branches. The last superior back molar is less than either of the others, and resembles the last in the form of its surface, but the root is bicuspid.

“In the lower jaw the first back molar is a very large tooth. It is larger than both of the others united. It resembles the corresponding tooth in the upper jaw, and rubs against the two first back teeth of that jaw. The second back molar of the lower jaw has much analogy to the last back molar of the upper jaw, and the last in the lower jaw is a very small short tooth, which nevertheless comes into contact with the last tooth in the upper jaw, and so assists in the mastication of the food.

“The table or surface of the back molars, above and below, is flat and favourably arranged for crushing, and in some sort grinding, the food submitted to their action; while the surface of the front molars offers a succession of points, and is adapted for penetrating and tearing the food.

“The three milk front molars do not differ from the permanent ones, except that they are smaller and whiter. These temporary teeth fall, and are replaced about the same time as the true canine teeth. The order in which the molars first appear and are replaced will contribute little to a knowledge of the age of the dog, on account of the difficulty and even the danger of opening the mouth of an animal capable of biting us severely. On this ac-

count, the changes which the molars undergo in their natural wear have been hitherto neglected; but the following is the order in which they appear:—

“The temporary front molars are usually found at the time of birth, or they protrude through the gums in the course of two or three days. The first back molar of the lower jaw appears when the puppy is six weeks old, and the supernumerary molars at about eight weeks. The second and third front molars are changed when the animal is between two and three months old; and the second back molar appears about the same time. Between three and four months the first adult front molar protrudes, and the last back molar between five and six months; but all these changes are, as with the incisors, more slowly effected in the small than in the large dog, and in very small dogs dentition is not completed until the eighth or ninth month.”

We confess that we are not satisfied with this account of the molar teeth of the dog. They are not described as a naturalist would describe them; and they are not described correctly. It would seem that our excellent author was much more in fear of a bite than either a zoologist or a veterinary surgeon should have been, and has painted more from imagination than from life.

The supernumerary molars have the least of any, except the canines and true molars, of the fleur-de-lis form, and soonest of all lose it. They appear last of all the molars, and, so far as our experience goes, continue as long as any of them. Placed immediately behind the canine teeth, and not reaching one-third of the way down those teeth, it is comparatively seldom that they can be to any considerable extent employed, or that any thing can be brought to bear upon them which will hazard their security.

The false molars (for so naturalists have agreed to call the anterior and bicuspid-molar teeth) are of a trenchant form; they have a cutting edge anteriorly and posteriorly; and even more of the fleur-de-lis form than the incisor teeth. There is this difference between them—the anterior one has a simple conical double-cutting form, with a slight projection at the base of the posterior edge, and a mere rudiment of one on the anterior edge. The second false molar has this posterior projection developed into a smaller acuminate point with the rudiment of a second one; and the third false molar has the original large conical projection, with two more developed and distinct smaller ones posteriorly.

M. Girard is wrong when he speaks of their having protruded before the birth, or protruding a few days afterwards. A specimen is now lying before us. It is that of a beagle puppy, in which the grand carnivorous and the compound trenchant and tuberculous tooth in the upper jaw and the carnivorous tooth in the lower jaw are cut, but there are only two false molars on either side perfect, and the second beginning to pierce the gums.

No one, we believe, has sufficiently marked the wear in these teeth as it respects the age of the dog; but the alteration in their

form is very striking, the rounding of the original and large conical point, and the gradual obliteration of the rudiment anteriorly, and the two supplemental points posteriorly, until at length there remains the conical, or almost triangular equi-lateral formed tooth, and rounded at the three angles.

In his description of the grand carnivorous tooth, or anterior true molar, M. Girard is still more incorrect and superficial. It is that which the naturalist, and the veterinarian as almost necessarily a naturalist, should recognise at a glance. It is that which is characteristic of the genus. It is in both jaws a compound tooth. In the upper jaw, to which the naturalist looks for the distinguishing mark of the genus, it is essentially a trenchant or cutting tooth, having two distinct prominences or projections, and each of them double-edged. On the inner side anteriorly, and at the base, and scarcely rising above the gum, there is a small tubercle; and still on the inside, and just visible above the gum posteriorly, is a ridge commencing under the valley between the peaks, and extending to the back part of the tooth. These prominences and cutting edges project over, and in every movement of the jaw rub upon the outer surface of the corresponding first true molar in the lower jaw, being thus admirably calculated to crush and to tear whatever they come in contact with. The prominences and cutting edges of the lower molar are fitted to and rub against the inner side of the upper one, and at length rest upon the ridge which has been just described. The little tubercle is brought almost into contact with the second tubercular molar tooth of the lower jaw.

The wearing of these teeth, although the different periods of age have not been, and probably could not be, assigned, depending so much as they do, and so much more than the incisor teeth could possibly do, on the food, is very strongly marked—the rounding of the points—the exposure of the bone of the tooth after the rounding has proceeded to a certain way—the gradual eating away of the ridge of the tooth, until it is actually lost in the gum, into which the points of the lower teeth seem to penetrate; and, most of all, and deserving of study, the gradual development of the tubercle, scarcely perceptible in the puppy, gradually increasing as the animal becomes capable of shewing himself a truly carnivorous one; and, at length, gradually worn down by attrition with the neighbouring teeth.

The first lower true molar is also a compound tooth. Anteriorly it is bicuspid, or rather tricuspid; for there are two cones fully developed, and the rudiment of a third posteriorly; and still more posteriorly the tooth is truly tubercular. It is the

union of the carnivorous and the omnivorous tooth ; it marks out the future destiny of the first genus of the second subdivision of the digitigrades.

The second true molar in the upper jaw is also a compound tooth, and characteristic of the habits of the animal ; partly a carnivorous tooth, to seize the prey for his master's use, and partly an omnivorous one, that he may be able to assimilate himself to the food of the master he is to serve. It extends itself across, and not like the others along, the jaw, occupying no little portion of the palatine arch ; it presents, outwardly, two prominent sharp and cutting points, while the inner half is perfectly tuberculous. The bicuspid points lap over the outer edge of the second molar in the lower jaw, and cut and tear the food ; the tuberculous part corresponds and fits with the whole tuberculous surface of the lower tooth, and so crushes that which has been already torn. The wearing of this tooth—the breaking off or rounding of the acuminated points—the rounding of them and of the trenchant edges—the flattening of the tuberculous surface are evident enough ; but the progress and rapidity of these changes will depend as much on the kind of food as on the age of the dog, and will be more rapid in the large and powerful dog than in the smaller one, on account of the additional strength of muscle employed on the teeth.

The last true molar tooth is a perfect tubercular one, still more confirming the mingled character and habits of the animal ; it also lies across the jaw. It meets the last molar in the lower jaw, and helps with it to crush the food. The three superior true molars united together present another change corresponding with the age of the dog. The operations of bruising and crushing the food depend almost entirely on them, the whole labour and stress is thrown upon them. They lie—the first in a little degree ; and the two last entirely across, and not along the jaw ; the force is made to act upon a shorter and smaller base. The altered form of the upper jaw gradually shews the accumulated power acting here : it yields—it bows out—it becomes, and by degrees the outer wall of the jaw assumes the same form—it becomes a true segment of a circle. The comparison between the form of this portion of the outer surface of the upper jaw in a young and an old dog is very singular.

The second posterior molar of the lower jaw is a tubercular tooth, lying along the jaw, and corresponding partly with the second, and partly with the last molar of the upper. Its indications of age are confined to the increasing smoothness of its surface.

The last posterior molar of the lower jaw is very small. It is

called, perhaps properly, a tubercular tooth; it is a small pillar with one tubercle on its top, or rather with a termination more pointed than tubercles are, and somewhat too pointed for a tubercle. It is received into a corresponding hollow in the last molar tooth of the upper jaw; and by the rounding and gradual disappearance of the point of the tubercle the increasing age of the dog is indicated.

Here we break off for awhile. It is with diffidence that we have made these remarks upon or additions to the work of an author so deservedly esteemed as M. Girard is, and standing at the very head of the veterinary profession in a neighbouring country. Our remarks on the natural form and changes of the molar teeth of the dog have not been brought to bear so closely and so accurately as we could wish on the main subject of M. Girard's Treatise—the indications of age. Here is ample room for future observation.

Y.

Miscellanea.

ANIMAL POWER AND HUMAN CRUELTY.

[We have great pleasure in copying the following observations from the leading sporting publication of the day. They do credit to the talent and to the heart of the writer. When the cause of humanity is advocated by such men, the rights and the comforts of the most valuable of our servants will be better protected, and the character of the British sportsman ennobled.—EDIT.]

“WE had hoped that the match which ended in the death of poor Rattler, in the summer of 1832, would have been the last of these inhuman useless outrages it would ever fall to our lot to record, and we are sorry to find that our expectations have been disappointed.

“During the hottest part of the past month (the 9th ult.), a person of the name of Dixon, residing at Knightsbridge, put a little chestnut mare, seven years old, fifteen hands high, to the barbarous task of trotting one hundred miles, in harness, in a match-cart weighing something under a hundred pounds, in ten hours and a half, which, we are sorry to say, the gallant creature accomplished by a quarter of an hour and some seconds within the time, consequently winning the match for her owner. The ground was chosen between the milestone next Hampton,

on the Sunbury road, to the fifth milestone next Staines, and the carriage was driven by a man weighing thirteen stone. The match was duly trumpeted forth in the papers, and the humanity of the parties extolled for commencing at night (regardless of the fact of that very night being one of the hottest ever felt), together with the usual flourishes about the worthies who managed the affair, and the appearance of the mare during and after the performance, &c. That excellent body the "Society for the Suppression of Cruelty to Animals," to whose laudable exertions in favour of the brute creation too much praise cannot be given, do not appear to appreciate the humanity of the parties, or to relish the undertaking more than ourselves, and sent the following notice to the landlord of the inn where the mare stood; and though we should not wish to see it followed up by a prosecution in this instance, inasmuch as the parties might possibly be ignorant of the penalties they *incurred*, we yet hope that it may act as a caution to them, and all others, against the commission of similar atrocities in future*.

" SOCIETY FOR THE PREVENTION OF CRUELTY TO
ANIMALS, ESTABLISHED 1824.

" Office, No. 3, Exeter Hall, Strand.

" SIR,—The Committee of the above Society, having read in the public papers that it is the intention of certain individuals to make a horse trot one hundred miles within ten hours and a half, in harness, over five miles of Sunbury-common, on Wednesday next, June 10, and your house being named as the head-quarters, I am directed to inform you, that this Society has come to the resolution to prosecute the riders or drivers who may be concerned [in such acts of inhumanity and barbarity; and they have determined to spare neither trouble nor expense in endeavouring to put a stop to such disgraceful proceedings.

" I am, Sir,

" Your obedient servant,

" June 9, 1832.

" HENRY THOMAS, *Secretary*."

" The following is reported to be the time and mode in which the cruelty was accomplished; and we place it on record against those who can thus abuse the powers of the noblest animal in the creation; of what avail, we ask, could it be—what good end could it promote—if even the willing victim had been urged to accomplish fifty miles more at a similar rate? If despatch is the object, will it not be much better attained by dividing the distance, and placing relays? and is it likely that in a country with such a population, and which has reached such a state of

* No after-proceedings were taken in this case, but the Society has determined to act with promptitude and effect if any "similar atrocity" is attempted.—EDIT.

civilization as England, that it can ever be necessary for a single horse to travel one hundred miles at a stretch ?

“ We have no objection to the reasonable display of a horse’s powers, either in trotting matches, races, or otherwise ; but we do protest against such outrageous demands upon an animal’s strength, courage, and endurance as the following table displays :—

	Minutes.	Seconds.	
First ten miles	58	30	
Second ditto	59	50	
Stopped	6	40	
			20 miles in 2 hours and 5 min.
Third	60	0	
Fourth.....	61	30	
Fifth.....	60	10	
Stopped	3	30	
			50 miles in 5 h. 1 0m. and 10 sec.
Sixth	60	30	
Seventh	60	10	
Stopped	3	0	
			70 miles in 7 h. 13 m. and 10 sec.
Eighth.....	59	10	
Ninth	58	20	
			90 miles in 9 h. 14 m. and 40 sec.
Tenth	60	0	

Being the one hundred miles in ten hours, fourteen minutes, and forty seconds.”

THE SHEPHERD’S DOG.

MANY dogs have an ear for music, and cannot hear a shrill note without breaking into a corresponding howl. They are now, for the most part, excluded from churches ; but at no very distant period it was common for them to attend their masters thither in the country parishes ; and large bands being thus assembled, they did not scruple to interrupt the service by gambolling about the passages, snarling, fighting, and other indecorous behaviour. Some of them, too, whose aural nerves were nicely strung, while the psalms were singing, at those turns of the tune which peculiarly affected them, struck in with a howling that was apt to discompose the younger part of the congregation, and greatly scandalized others ; so the intrusion of dogs has been at length prohibited. But the evil cannot be altogether prevented, for many will not stay behind their masters ; if tied up, they gnaw the rope, and chains are not to be had for confining them. If they are shut up, why, ten to one, some article vanishes from the place where they are confined, or a child, with whom they are favourites, is determined to see how they are passing the time, and, opening the door, allows them to escape. But some

of them are by far too cunning to permit themselves to be either tied or shut up.

One old cur in the parish of M—— knows the Sabbath as well as his master, and takes care to keep out of reach, at a safe distance from the house, all the morning. He watches the time when the family set out for church, and accompanies them. During the sermon and prayers he lies quiet, but erects himself into a posture of attention and enjoyment when the singing commences. Placed directly before the precentor, he points his nose upwards, and waits till a high note is reached, when, being unable longer to restrain himself, he shuts his eyes and joins with a shrill and prolonged howl. To a stranger this accompaniment has an odd effect; but the congregation are well accustomed to it, and nobody is discomposed by it, or disturbs the venerable animal. An anecdote of a different kind, but equally exhibiting the sagacity of the colley, we have heard from the person who witnessed the circumstances.

In the winter of 1823, our informant D. took charge, for a few days, of the flock of his brother, who was ill. His brother's dog, a docile animal, was easily induced to attend and obey him, contrary to the habits of most of the same breed, who refuse to make themselves serviceable to any but their master. A severe snow storm took place while D., who had been accustomed to a town life, was performing these novel duties. At such times, it is scarcely necessary to remind any of our countrymen the snow drifts to great depths in one place, while in another the surface of the ground is hardly covered. If the wind, for example, blows upon the north side of a hill, its force lifts the snow from the ground, drives it over the summit, and lodges it on the south side. On this south side, perhaps, is situated the round, or shelter, in which the flock is penned in severe winter weather during the night; but here, though they find protection from the blast, no food is to be had—and hence the necessity of removing them during the day to more favourable ground, where, by penetrating a smaller depth of snow, they may reach the herbage. This work of removing a whole flock is very tedious, as they have to form a track through the snow. To render it less difficult, the shepherd usually takes half a score of the strongest, and drives them in the direction he judges most easy; he then returns for the bulk of the flock, who, finding a road opened, form into a long line, and thus proceed to the place of feeding. In order still more to shorten the time which this necessarily occupies, D. was in the habit of taking the advance guard under his own charge, and leaving the remainder to that of the dog, who seemed perfectly to understand what was expected of him, and brought on his drove with a steadiness and deliberation which shewed

him to appreciate fully the difficulties of the way. Sometimes, from the inequalities of the ground, D. was completely hid from view, and, from the strength of the sheep, and greater facility of pushing forward a small number, a long way in advance. On such occasions, the dog would leave his drove, and make his appearance on some elevated situation, whence he could command a view of D.'s motions. Here he sat for some time and watched them : then returned of his own accord to his charge. D. could account for this in no other way than by supposing the sagacious animal to be aware of his inexperience in the employment ; that he considered himself in some degree as " his guide, his monitor, and friend ;" and made these reconnoitring expeditions from an anxiety he had lest some difficulty should occur that required his assistance. As soon as they had conducted the flocks to the place where they were to feed, and met to congratulate each other on the successful accomplishment of the task, he testified his satisfaction in a manner which comported with the character of so considerate an animal, not by leaping upon his master and loud barking, like foolish dogs that have no command over their feelings, but he approached, wagging his tail, poked his nose upon D.'s hand, and licked it, his eyes beaming all the while with the liveliest kindness. " Nor can I ever persuade myself," concluded our informant, " that his joy arose entirely from a consciousness of having performed his own duty well : he felt, I have no doubt, a load of anxiety on my account removed from his *mind*, and was glad beyond measure that no untoward event had fallen out between us. The friendship which then commenced has not been broken off ; my faithful assistant still survives, and never fails to recognize me when we meet, even after long intervals of absence.

Chambers's Edinburgh Journal.

DIPLOMAS GRANTED BY THE ROYAL VETERINARY COLLEGE.

<i>June</i> 29.	Mr. J. B. GREGORY	from Lewes.
	— G. T. BALDWIN	Fakenham, Norfolk.
	— T. ASTON	London.
<i>July</i> 6.	Mr. J. HUGHES	Calcutta.
	— T. S. BEECH	London.
	— F. A. SMITH	Conisborough.
	— J. F. WILKINSON	Preston.

TO CORRESPONDENTS.

An accident—the fortune of our profession—prevents the insertion of a lecture in the present Number.

Our advertising friends will have the kindness to pay the postage of their letters, and favour us with an order for payment on some one in Town.

THE
VETERINARIAN.

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE XLIX.

*Epilepsy in the Horse—Cattle—Sheep—Goats—Pigs—Cats—
Poultry, and Dogs.*

BELIEVING, to a very considerable extent, the truth of the theory—but more because it afforded a simple and intelligible illustration of the diseases of the nervous system—I imagined that the nervous power, in the healthy state of the constitution, was supplied to the muscles of animal life, not in a continuous tenour, but in minute and successive jets. The first deviation from this, Tetanus, the rushing on of the nervous energy with unusual violence, without pause, and in defiance of the will, formed the subject of the two last lectures. We sometimes witness the same excessive supply of nervous energy, and that extended over the greater part of the frame, and independent of the will; but there are pauses or suspensions,—there are alternate contractions and relaxations—*Convulsions, Epilepsy.*

Varieties of Epileptic Disease.—I will not detain you by inquiring into the distinction which human pathologists have drawn between these two terms, convulsions and epilepsy. I do not quite understand it as applied to the human patient; and I am quite assured that the symptomatology of quadrupeds is not yet sufficiently accurate to justify us in entering into these minutiae. By epilepsy in our patients I understand a spasmodic contraction of the voluntary muscles, accompanied by partial, and generally total loss of consciousness—in its idiopathic state often scarcely to be distinguished from *apoplexy*; in its connexion with other diseases not deserving a stronger name than *convulsions*.

THE HORSE.

Symptoms.—I commence with our chief patient, the horse. I take him out apparently well. On a sudden he is heedless of the rein or of the whip. He stops—trembles—looks vacantly around him, and falls. Every limb begins to be convulsed; the teeth are ground together, or firmly clenched; the nostrils are dilated; the eye seems almost ready to start from its orbit—it revolves in a most singular and frightful manner. The contortions of the lips, and the altered expression and momentary changing of the countenance, once having been observed, will not be readily forgotten. The head and the neck are always violently, and occasionally the whole frame is fearfully, convulsed.

Progress.—This lasts during an uncertain period. Some patients have died in the fit; but usually, after five or ten minutes, the convulsions begin to abate—they cease; consciousness returns—the animal gets up—he looks about him with a kind of stupid astonishment—he cannot understand what has occurred. By degrees his recollection returns—he gives himself a hearty shake—he urines, and he proceeds on his journey with much diminished alacrity and power; or, if he has opportunity, he falls to eating, although not with his usual appetite. It is somewhat difficult here to draw the line between apoplexy in its mildest form—megrimms—and true epilepsy. There has been a degree of determination of blood to the head, which has seriously deranged the secretion or the distribution of the nervous energy over the whole of the animal system.

Causes.—Although the horse is our most valuable patient, and will occupy the greatest share of our attention, I cannot tell you the premonitory symptoms of epilepsy in him: in the majority of cases I believe that they are few and evanescent. Fortunately, cases of epilepsy in the horse come not often under our notice; and when they do occur, it is more frequently in the perfect colt or horse than in the gelding or the mare. A case of asthenic epilepsy, or arising from defective power or action, has not fallen under my observation, nor have I found it recorded; there has, on the contrary, been fulness of blood, excited action, or local irritation. Almost always there has been increased and disturbed circulation, and this accompanied by or connected with disease or a temporary derangement of the digestive organs. In the human being it is often allied with insanity; in the quadruped it is still oftener complicated with apoplexy.

Case.—M. Dubuisson relates a case similar to those which

will probably occur in your practice, and illustrative of the cephalic and gastric origin of epilepsy. He was called on to visit a horse with supposed staggers. He found the animal pressing his head against the wall of the stable; he was, as it were, fixed there, and his eyes were open and insensible. All at once he began to tremble—he fell—the most violent convulsions ensued—the mouth was filled with foam, and the eyes rolled rapidly and fearfully in their orbits. This lasted ten minutes, then came a calm; the horse got up, covered with a profuse perspiration, and quite exhausted. The practitioner guessed that this arose from intestinal irritation, producing a determination of blood to the head, and, that giving origin to epileptic convulsions, and he administered a considerable quantity of emetic tartar (a most valuable vermifuge in the horse); this caused the evacuation of nearly 400 worms, and the epileptic fits returned no more*.

Treatment. Bleeding.—There are two or three cases on record in which epilepsy has been clearly traced to dentition. You, however, gentlemen, will not often be so fortunate as to discover the cause, or remove the tendency to this disease. You will, of course, make yourselves, as much as you can, masters of every circumstance, and take your measures accordingly. Where you are unable to discover the cause you will always be justified in bleeding from the jugular, for either there is determination to the head from general fulness of blood, or, if the disease should by possibility be connected with debility, there will be an irregular distribution of the blood. More than the natural quantity will be congested about the brain, and venesection, to an extent to be determined by the circumstances of the case, will be indicated.

Treatment continued.—With bleeding purging should be associated, and, to a moderate degree, should be continued for a considerable time. A seton should be passed along the sagittal suture. Some practitioners, under the notion of derivation or alteration of the current of the fluids, prefer to insert it under the jaw or the brisket.

At the same time, so far as it can be accomplished without inducing a plethoric state, the constitution should be strengthened. The vegetable tonics, ginger, gentian, and calumba are to be preferred; but there is no objection to the carbonate or the sulphate of iron. Green meat is useful, and a salt mash has been said to have removed altogether the epileptic diatheses.

Difficulty of Cure.—After all, however, the instances of per-

* The case will be found at length in this Number.

manent cure will be few and far between. Two, four, or six months may elapse, and both the owner and the practitioner may persuade themselves that all is safe; but, under some peculiar circumstance of irritation, or, perhaps, at a moment altogether unsuspected, the fit may return and endanger the life of the rider or driver. It will, therefore, be your duty to speak plainly and promptly on this head; and if the animal is not peculiarly valuable, to press the propriety of parting with it, and the absolute necessity of destroying the patient after the first relapse. Except the animal is young, and the disease of recent date, I can hardly conceive how you would be ever justified in treating the case.

CATTLE.

This sad malady is far more prevalent among oxen and steers, and sometimes among calves, than in the horse; and yet it has been observed that a milch cow is rarely or never affected by it. So much of the food of the cow being devoted to the nutriment of their offspring, or of man, we cannot well conceive of the possibility of that plethoric state or deranged circulation by which epilepsy is usually caused.

Symptoms.—Young cattle are the usual victims here, as might be readily expected. The premonitory symptoms are as obscure as in the horse; or, perhaps, they are as deficient in cattle as in the horse. There will, perhaps, be a little previous dulness or heaviness, but that will rarely be observed, or it will be regarded as accidental, or connected with some other and different disease. The beast begins all at once to stagger. He usually moans piteously, and, as the fit approaches, the moaning changes to a fearful bellowing. The convulsions are more diffused and more violent than in the horse—the dreadful labour of respiration, and the contraction of the abdominal muscles are frightful—the mouth is filled with frothy fluid, tinged with the colour of the food, and many particles of food mingling with it, and the feces and the urine are discharged involuntarily.

The duration of the fit is uncertain; but, as in the horse, the convulsions gradually cease, and all is for a moment quiet—the beast gets up—looks around him with wonderment and suspicion—slowly and cautiously joins his companions, and then begins to graze again, as if nothing had occurred.

Serious Nature of the Disease.—The evil, however, does not end here. The young beast is a far more plethoric subject than the ox—the usual course of the blood is more easily deranged and determined to the brain, and the habit of fits is too readily formed; and not merely of fits occurring at irregular and distant

intervals as in the horse, but twice or thrice, or many times in the course of a day : so that there is not only much danger to those who have to attend on the animal, but he is covered with contusions, his condition is impaired, and he is soon ready to be carried off by some more than usually violent attack.

There is an almost inseparable connexion between epilepsy and apoplexy in these animals. Young beasts in high condition are oftenest attacked ; and a sudden change of pasture from that which is scanty to another that possesses extraordinary luxuriance is almost sure to produce it. In fact, it is apoplexy or staggers in these animals. There is, from determination of blood to the brain, sufficient pressure to produce great derangement in the stream of nervous influence ; but not enough to be the immediate cause of death.

Treatment.—The mode of treatment will be same as in the horse—bleeding, physic, setons, and a less allowance of food : but, except there are circumstances which render the farmer peculiarly anxious to save that beast, the wisest course is to send him to the butcher, for the treatment will be both expensive and doubtful.

SHEEP.

This disease occurs yet oftener in sheep than in cattle. On a sudden, and without any apparent cause, a sheep will cease to graze ; he will stare stupidly around him, stagger, run round three or four times, and then fall and struggle violently for several minutes. By degrees the convulsions subside, they cease, and the animal gets up with the same half-unconsciousness that has been described in the horse and the ox ; this wears away, and he begins to graze again.

Nature of the Disease.—Here again is a close connexion or identity between apoplexy and epilepsy. These fits oftenest occur in young sheep in good condition, and after improvident change of pasture. It is very frequent in the beginning of spring and the latter part of autumn, when the hoar frost lies thick upon the ground. The sheep, either not having been folded, or being turned out too early, gather much of this congealed water with their food ; and it palsies the action of the rumen, or by its intense cold determines the blood from it to a more important and dangerous part. Having to travel over the downs of Wiltshire at this season, a few years ago, I had an instructive but not pleasing illustration of this cause of epilepsy. Within two hours after day-break I saw at least twenty sheep and lambs with the convulsions of epilepsy strong upon them. The coachman told me that on every fine cold morning he saw nearly or quite as

many. I saw also an illustration of the chief method of cure among some of the shepherds. It was to break one morbid derangement of the nervous system by setting up another. The dog was set upon the poor animals, and who were thus speedily frightened, not out of their senses, but into them again. I saw this succeed in several instances; but I thought that it was a brutal and a dangerous mode of cure. The chain of diseased action might sometimes be broken, but there was hazard of the determination of blood to the sensorium, which was the cause of these convulsions, being abundantly and fatally increased. I thought it would have been better to have soothed the poor animal, and to have taken it home and nursed it, and, most of all, not to have exposed it to the influence of this cause of derangement of the vital and nervous currents.

Frequency of it in some Districts.—On some parts of the continent this disease is very prevalent and fatal among sheep, and is traced to the nature of the pasturage. Tessier, in his valuable work on sheep, speaks of it as having been lately introduced, and becoming exceedingly prevalent and fatal in the district of Beauce, in France. When it once attacks a flock, it finds such a free disposition in them all to be affected by it that the farmer either gets rid of the whole, or destroys every sheep that exhibits the slightest symptoms of it; and many of the farmers of the district have actually given up sheep husbandry on account of the frequent prevalence and the ravages of this malady. He attributes the complaint to the cultivation of a different kind of pasturage in Beauce than that on which the sheep used to feed; but he does not enter into the particulars which we could wish on such a point.

Gasparin, speaking of its prevalence in Germany, says, that it is most destructive in the spring and the summer, and occasionally so in winter; and he tells us that the shepherds there attribute it to the feeding on some species of dock, and garlick, and, in the winter, on the sproutings of the pine.

There can be no doubt that pasturage and condition are main agents in the production of this disease.

GOATS.

Even among the few goats which are kept in Great Britain in a domesticated state, epilepsy is not an uncommon disease. In other countries, and even in some parts of France and Switzerland, where they are kept for their milk, this disease is exceedingly troublesome among them. The goat is a more lively and seemingly imaginative animal than the sheep, and therefore more

likely to be influenced by the various causes which tend to produce derangement in the nervous system.

SWINE.

These animals occasionally exhibit all the frightful appearances of epilepsy in full perfection. One, in a herd of them, or in a sty with a few companions, falls suddenly—as suddenly as if struck by lightning, and he lies a minute or two motionless. Then convulsions commence—increase—become dreadful to see; the countenance is distorted, and the neck bent in a dreadful way; the cries are painful to hear; and another and another is seized in the same way: at length they become exhausted and quiet; they get up—try to hide themselves in the litter, or in the corner of the sty—look suspiciously around, until, considering all that has passed as a fearful dream, they creep forward, and begin again to eat.

A Case.—Let Mr. Cartwright, to whom we owe much for his application of the veterinary art to inferior animals, describe a case which occurred to him:—"In 1825 he saw a pig that was taken ill in the following manner. The animal was a little stupid and dull, and wandered about the sty unconsciously for a few minutes, and would then appear to be quite well; but a few days afterwards he became worse. He would move forwards until he came to the wall, and then backwards until he came to another wall, grunting and squealing all the time; then he would fall, and tumble about, and squeal hideously, being all the while evidently blind, and unconscious of surrounding objects; and this would continue until he was perfectly exhausted. These fits became more and more frequent, until they occurred almost every quarter of an hour." Mr. Cartwright bled him, and kept his head wet with cold water, and gave him salts and calomel, and he recovered; but five or six others died of the same complaint in the same neighbourhood.

Explanation of its prevalence among Swine.—He who has watched the habits of swine when not confined in the sty can easily believe that they are more imaginative than common opinion supposes them to be. The manner in which they are affected on the approach of a storm—the singular way in which a dozen or more of them will run about in an apparently frantic state, with straw in their mouths, and uttering the loudest cries—the mingled sympathy and terror which the whole herd exhibits when one of them is undergoing the operation of spaying, or of ringing—these are sufficient indications of a susceptibility of impression which may not unfrequently subject them to the attack of epilepsy.

CATS.

The manner in which a young cat under dentition will often dash about a room, and the mischief which it will unconsciously do to the crockery-ware, and to the owner if he or she should be foolish enough to lay hold of it, are sufficient proofs of the extent to which epilepsy is occasionally developed in this animal. The only thing that can be done is to put a little calomel and emetic tartar in the milk which is given to it, and which will both puke and purge the patient, and thus probably get rid of a portion of the cause of irritation.

POULTRY AND CAGED BIRDS.

There are few more frequent causes of death among caged birds, and poultry that are much confined and put up for fattening, than megrims or giddiness—in other words, epilepsy. Even in their usual walks poultry of all kinds will often suddenly stop, fall, struggle for a few minutes, and, although recovering their consciousness, yet hang their wings and droop for many an hour. Our most valuable caged birds will suddenly fall from their perches, and, after a few struggles, die; at other times the fit will pass over, and they will linger on to experience a second or third attack, which, at length, is fatal.

Treatment.—After a direct attack of epilepsy, from one quarter of a grain to a grain of calomel, and the same quantity of emetic tartar, should be given in a little butter, and washed down with warm water. When the premonitory symptoms of giddiness and staggering have been observed, the same remedy should be resorted to; and for all cases of stupidity and constipation, calomel—the quantity rarely exceeding two grains for the largest bird, and sulphur to the extent of four or five grains, will prove an excellent alterative.

DOGS.

Of all our patients, dogs are most exposed to epilepsy, and in them it assumes the most fatal character. It is an accompaniment or a consequence of almost every other disease. Does a puppy undergo the process of dentition? the irritation produced by the pressure of the tooth as it penetrates the gum leads on to epilepsy. Is he going through the stages of distemper? with a very little bad treatment, or in spite of the best treatment, fits occur. Has he worms? the degree of intestinal irritation which is set up is marked by an attack of epilepsy. Has his usual exercise been neglected for a few days, and then he is taken out

and suffered to range as he likes, the accumulation of excitability is expended in a fit.

The Causes of Fits in Dogs.—How is this? These causes do not produce similar disturbances in other animals. The dog is, *par excellence*, our intellectual patient. In proportion to his bulk the weight of his brain far exceeds that of any other quadruped, the very smallest animals alone being excepted, in whom there must be a certain accumulation of medullary matter in order to give origins to nerves of every system as numerous in the minutest quadruped as in him of greatest bulk. The dog is, without exception, the most intellectual animal: he is the companion and the friend of man; he exhibits and is debased by some of his vices; but, to a greater degree than many will allow, he exhibits also the intelligence and the virtues of the biped.

Has it been said of the human being, that great power and exertion of the mental faculties are sometimes connected with a tendency to epilepsy? Were Cæsar, and Mahomet, and Napoleon, epileptic? Have violent emotions of joy or of grief been closely followed by epilepsy? Then I can readily account for the young dog—I never saw it in the horse or in cattle—being frightened into a fit at the chiding of his master, or the dread of a punishment which he was conscious that he had deserved; then, too, I can understand that, when, breaking loose from long confinement he ranges in all the exuberance of joy, and especially when he flushes almost his first covey, and the game falls dead before him, his mental powers are quite overcome, and he falls in an epileptic fit. The very yielding, the temporary breaking down of the intellectual power, is a sufficient proof of the extent to which it exists.

Treatment.—The treatment of epilepsy in the dog is simple, yet often misunderstood. Is it connected with distemper in its early stage? It is the produce of inflammation of the mucous passages generally; and an emeto-purgative will, probably, by its direct medicinal effect, relieve the digestive passages from some source of irritation, and by its mechanical action unburthen the respiratory ones. Is it connected with the after stages of this disease?—is it symptomatic of an asthenic state of the constitution?—the emeto-purgative must be succeeded by an anodyne at least, and then, by that which will strengthen but not irritate the patient. A seton is an admirable auxiliary in epilepsy connected with distemper; it is a counter-irritant—it is a derivative—it effects a salutary discharge, under the influence of which inflammation elsewhere will gradually abate. I should be, however, cautious of bleeding in distemper fits. I should be fearful of it even in an early stage, because I well know that the acute form

of that general mucous inflammation soon passes over, and is succeeded by a debility, from the depressing influence of which I cannot rouse my patient. Do the fits proceed from dentition? I lance the jaws, and give an emetic, and follow it up with cooling purgative medicine. Do they arise from worms? I endeavour to expel them. From irregular and excessive exercise? I open the bowels, and make my exercise more regular and equable. From excitation? I expose my patient more cautiously to the influence of those things which make so much impression on his little but susceptible mind.

Treatment continued.—Should I never bleed? Yes; if the fit had resisted other means. A fit in other animals is generally connected with dangerous determination of blood to the head, and bleeding is imperative; a fit in the dog may be the consequence of sudden surprise and irritation. If I had the means, I should first of all do that which I have deprecated as it regarded the poor sheep; I should see whether I could not suddenly break the charm—whether I could not get rid of one disturbance by suddenly affecting the nervous system, and the system generally, in another way. I would not throw the dog into the water, and half drown him; nor empty bucket after bucket of water upon him; but I would seize him by the nape of the neck, and dash a little cold water, and with all my force, plump in his face. How often has the shock of this dispersed the epileptic agency as it were by magic? I would give an emeto-purgative (a grain or a grain and a half of calomel and the same quantity of emetic tartar); I would soothe and coax the poor animal. Then—and if I saw it at the beginning, I would do it early—if the fit was more dependent upon, or was beginning to be connected with determination of blood to the head, and not on any temporary cause of excitation or irritation, I would bleed freely from the jugular. But we travelled a good deal over this ground when treating of distemper and apoplexy; and, besides, our usual time is nearly expired, and I can recur only to one other species of epilepsy connected with the rearing of the puppy.

Puerperal Fits.—Nature proportions the power and resources of the mother to the wants of her offspring, and in her wild undomesticated state the bitch is able to suckle her progeny to the full time; but in the artificial state in which we have placed her, we shorten the interval between each period of parturition—we increase the number of her young ones at each birth—we diminish her natural powers of affording them nutriment—and we give her a degree of irritability—which renders her whole system liable to be excited and deranged by causes that would otherwise be harmless: therefore it happens that, when the pet-

ted bitch is permitted to suckle the whole of her litter, her supply of nutriment soon becomes exhausted, and the continued drain upon her produces a great degree of exhaustion, and consequent irritability. She gets rapidly thin; she staggers; is half unconscious; neglects her puppies, and suddenly falls into a fit of a very peculiar character. It begins with and is sometimes confined to the respiratory apparatus: she lies on her side, and pants violently; the sound of her laboured breathing may be heard at a distance of twenty yards: sometimes spasms steal over her limbs; at other times, the diaphragm and respiratory muscles alone are convulsed. In a few hours she is certainly lost; or, if there are moments of remission, they are speedily succeeded by increased heavings.

The practitioner, unaccustomed to this fearful state of excitation, and forgetful or unaware of its cause, proceeds to bleed her, and he seals her fate: although one system is thus convulsively labouring, it is because others are suddenly and perfectly exhausted; and by abstraction of the vital current, he reduces this last hold of life to the helpless condition of the rest. There is not a more common or fatal error than this.

The veterinary practitioner is unable to apply the wonderful agency of the tepid bath to his larger patients in order to quiet the erythism of certain parts and systems, and produce an equable diffusion of nervous influence and action; and, unable to apply it to his larger patients, he forgets it when he has it in his power to save the smaller ones. Let this poor bitch be put into a bath, temperature 96° of Fahrenheit; her head and ears excepted, let her be covered by the water. It will be surprising to see how soon the simple application of this equable temperature will quiet down the erythism of the excited system. In ten minutes, or a quarter of an hour, she may be taken out of the bath evidently relieved, and then, when, after a hasty and not very accurate drying, she is wrapped in a blanket and placed in some warm situation (a good dose of physic having been previously administered), and she breaks out into a profuse perspiration all over her, every thing becomes gradually quiet, and she falls into a deep and long sleep; and, at length, awakes somewhat weak, but in a manner restored. If, then, all her puppies except one or two are taken from her, and her food is, for a day or two, somewhat restricted, and after that given again of its usual quantity and kind, she will live and do well: but a bleeding at the time of her fit, or the suffering all her puppies to return to her, will inevitably destroy her. I do not know a case in which, by the exercise of a very little judgment, a practitioner will acquire so much repute.

EPILEPSY.

By PROFESSOR VATEL.

EPILEPSY is an intermittent neurosis of the brain, characterized by convulsive attacks of short duration, with the suspension and abolition of the exercise of the senses, and a prompt return to the natural and healthy state.

The horse, the ox, the cat, the pig, and more particularly the dog, are subject to it. It is not of frequent occurrence, and it appears without any well-marked premonitory symptoms.

The common appearances in all these animals are the following:—The patient suddenly falls; sensation and consciousness are suspended; there is general convulsive agitation, with spasmodic contractions and distortions of various kinds; the eyes are protruding; the pupils distended; the gaze seemingly fixed on one point, and yet the ball of the eye curiously revolving: there is convulsive champing of the lower jaw; grinding of the teeth, and abundant discharge of saliva; a livid redness of the mucous membranes; turgidity of the superficial veins; involuntary discharge of urine, semen, and feces; the pulse wiry and small at the commencement of the attack, and afterwards more developed, hard, bounding, and frequent, and towards the close of the fit (which usually lasts three or four minutes, and sometimes more) irregular. By degrees the animal becomes calm; he gets up, appears stupid, dull, and oppressed; he then shakes himself—sometimes stales; assumes his former habits, and continues apparently well, until the next attack.

In some rare cases in the horse and the dog, there is a stiffness of all the muscles of the trunk and the limbs, and convulsive agitation of the jaws, and the discharge of abundant spumy saliva, and it is long before the animal is able to rise.

The fits return at uncertain intervals—sometimes they occur once or more every day, but oftener a month or six weeks, or more, intervene.

The causes of epilepsy are frequently obscure. It may, however, be considered as the consequence of cerebral inflammation, rarely primary, but ordinarily symptomatic of gastro-intestinal irritation, or the presence of worms in the digestive canal.

Medical treatment can only be resorted to in the interval between the fits. It consists first in carefully exploring the nature of this gastro-intestinal irritation, and adopting the proper remedies, and, where this cannot be recognized, in endeavouring to

diminish the nervous irritability by cold baths, cold affusions on the head, low diet, and, as occasion may require, general and local bleeding. Antispasmodics should be administered in large doses, and, chief of all, the valerian.

Elémens, vol. i, p. 52.

EPILEPSY AND STAGGERS ALTERNATING IN A HORSE HAVING WORMS.

By M. DUBUISSON.

ON March 28, 1834, I was requested to visit an entire horse, seven or eight years old, which was said to have staggers. He had become very thin during the last two months, although he had eaten more than usual. It had also been remarked that he sweated more than his companions—that he often dropped behind, and made various attempts to rid himself of some annoyance about the anus: the servant added, that the horse had voided several large long worms.

On my arrival I found him pushing his head forcibly against the wall above his manger. His eyes were open and projecting; he was completely unconscious of every thing around him; he seemed to be as it were picketted on his fore legs: the pulse was small and wiry; the mucous membranes retained their natural colour; the belly was tucked up, and there was considerable constipation.

He remained in this state a quarter of an hour, during which we observed occasional disordered movements, and at length he suddenly drew back from the wall; trembled all over; several parts of him were convulsed; he staggered about, and then fell all at once stiff as a bar of iron. In a few moments he was agitated all over; his limbs were alternately flexed and extended; his lips were contracted; the saliva was foamy and abundant; the eye protruded, and turned itself incessantly in the orbit, and the countenance became terrifying. The pulse, during the whole time, was small and hard, and the breathing considerably accelerated. During the epileptic fit consciousness was quite lost.

After about ten minutes, the animal got up again, covered with perspiration—stood for a little while, and then resumed his former position, his head pressing against the wall.

I saw two of these successive attacks of staggers and epilepsy, and I remarked that the duration of the epileptic fit increased the oftener it was repeated.

After all that I had seen, and the account which I received

from the owner, I felt assured that the presence of worms in the intestinal canal was the principal cause of these nervous affections; and I consequently prescribed the emetic tartar, in doses of half a drachm, administered every half hour, in a considerable quantity of water: six drachms were thus administered in as many hours, and each dose dissolved in a pound and a half of water. Enemas of emetic tartar dissolved in water were also occasionally administered.

On the following morning I was agreeably surprised to see the animal in question feeding like its companions. The owner assured me that the horse had suffered a great deal of pain during the night, and which had not ceased until after the evacuation of much liquid feces that contained a quantity of worms, the number of which he estimated at four hundred. I do not doubt the fact, for I saw at least two hundred still remaining on the litter.

The horse has been well from that time.

Récueil, Mai.

SPASMS OF THE DIAPHRAGM.

By Mr. JOHN TOMBS, Pershore (late Bengal Horse Artillery).

May 6th, 1834.—A FIVE-YEAR old brown mare had been out at grass some few days, when she was taken suddenly ill with the following symptoms:—Pulse exceedingly weak, 60 beats in a minute; respiration quick and laborious, but the sides did not contract so much as in pneumonia; conjunctiva very much reddened; did not lie down, shivered a great deal; appetite lost. R Copious venesection; and an aperient ball. In the evening violent palpitations of the diaphragm came on, which was discovered by a tremendous and loud noise inside the ribs, as though a man was in the thorax beating the ribs with a hammer: the noise proceeded principally from the left side, midway between the spine of the back and the ninth rib. Pulse almost imperceptible. Bleed largely, and give ʒj of opium: volatile liniment applied to the whole exterior part of the ribs opposite the diaphragm, from the posterior point of the sternum to the first lumbar vertebra, and to the extremities.

7th, A.M.—Convulsions of diaphragm less, although the noise can be distinctly heard. R opii ʒj. Liniment used to the ribs and extremities: there was a total cessation of convulsions in the evening.

8th.—Extremely costive; pulse quick and weak. Give aloes
3iv. Enemas injected.

9th.—Still costive; appetite improved. Give ol. castor one
pint.

10th.—Bowels relaxed; pulse and respiration less frequent.

13th.—Perfectly recovered.

ABSCESS IN THE THIGH, COMMUNICATING WITH THE STIFLE JOINT.

By the same.

June 18th, 1834.—A FOAL had been lame about three weeks: the owner, fancying he was lame in the acetabulum, applied some white oils, which produced a very high degree of inflammation, and increased the lameness tenfold. Two or three days after the oils were applied I saw him, when his pulse was weak and 120 in number. The eyes had a ghastly appearance; continued grating of the teeth; tongue furred; the thigh was prodigiously swollen inside and out, very hot, tense, and painful. The foal could not walk nor sustain the least weight on his feet; the limb was continually flexed. I ordered a laxative and fomentations to the thigh: on the following morning he died.

On dissecting off the gracilis muscle, an immense quantity of thick pus escaped from the cellular membrane underneath it. After removing the vastus internus, more made its exit: on farther dissection an orifice was discovered going right into the stifle joint, through the capsular ligament. When the orifice was enlarged, about a quart of pus was found in the joint; the matter had insinuated itself half way down the tibia. There was a large quantity of pus contiguous to the femur: when it was all removed, these bones were quite bare. The cause of the lameness is unknown.

INCONTINENCE OF URINE IN A MARE.

By Mr. B. BALL, Launceston.

A CASE of this disease occurred a week or two since in my practice, in a mare, the property of a respectable farmer near Launceston. She was perceived to dribble away her urine from the vulva, involuntarily, and in very small quantities, which excoriated the legs and thighs as it came from her. I was sent for to see her. I examined the bladder per rectum, and

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found it considerably distended ; on discovering which, I immediately introduced a catheter into the urethra, and quickly drew off more than a gallon of urine, which very much relieved her.

After this, I more minutely and attentively pressed upon the above organ, in order to see if I could feel any thing like a calculus or stone in it, but could find none: I however left my instrument with my employer to draw the water off himself whenever it might accumulate, and in the interim to inject with a syringe warm water into the bladder two or three times in the day. I also left a mild purge to be given, and, after that, some balls with opium and Peruvian bark. I did not bleed her, because there was no fever or constitutional excitement present: she ate well, appeared lively, and did her usual work (until I ordered her rest) without any apparent diminution of flesh; nor was the bladder found tender upon compression, &c. I therefore concluded it must be a case of *paralytic* affection of the neck of that viscus. The mare is something but not much better than she was. Have any of your correspondents seen a similar case, and will they favour me and the profession with their opinion and treatment of it?

ACUTE FOUNDER IN THE FEET OF A MILCH COW.

By the same.

IMMEDIATELY after calving the animal caught a "chill," as the man termed it, which at first settled itself in the udder, and partly in the feet; but, by some topical application that he used, it left the bag and went to the fore feet, thereby causing the poor beast to hobble along like a foundered horse; indeed, she was so lame that she could scarcely stand.

Notwithstanding all this, the proprietor did not send for a practitioner until a fortnight after it first happened, nor did he either bleed or purge her, but thought she would get well without the help of medicine. He however, at last, sent for me. I had her soles thinned, and her hoofs rasped. I bled her in the toe of each claw, and gave her a purging drench. I afterwards administered small doses of sulphur, from three to four ounces, with tonics and stomachics.

The cow is now very well, constitutionally speaking, but is still lame and tender in her feet, and loses flesh, from the pain and irritation of these parts. I likewise ordered poultices to be applied, but with no apparent good results.

It is very remarkable that she never flinched when her feet were compressed by the pincers, or the hoof was struck with

the hammer, nor do they feel unusually hot. The *joints* are perfectly free from heat, tumefaction, or tenderness; so that it cannot, I conceive, be any affection of those parts. Here, then, I am fixed in a professional labyrinth, hardly knowing what to do. Perhaps some of your readers may throw a little light upon the case at some future time.

SINGULAR AND FATAL CASE OF VOMITION IN THE HORSE.

By Mr. J. J. ROGERS, London.

ON Friday night, August 7th, 1835, a roan horse at Mr. Busbridge's livery stables, Gray's Inn Road, was attacked by all the symptoms of gripes, for which he had an antispasmodic draught administered, and was bled by the proprietor. On the following morning he was much worse, and Mr. Langworthy (to whom I am an assistant) was sent for, who was told by the groom that the horse was sick, and vomiting frequently.

Aware of what an unusual circumstance vomition in the horse is, we immediately went, and when we arrived he was discharging incessantly a yellow fluid, of a very offensive odour, in large streams from both nostrils, and which was marked by all that labour and distress that usually attends this morbid action in the human subject; a frothy mucus occasionally proceeded from the mouth; the pulse was very indistinct, indeed, scarcely to be felt; and the horse was evidently sinking fast. A draught composed of ammoniæ carb. ʒj, and p. opii grs. x, was immediately administered, and repeated, but with no avail, as the horse died between seven and eight o'clock the same evening, after having voided two or three gallons of the fluid in the course of the day.

Post-mortem Examination.—On opening the abdomen, the stomach, contrary to what is the usual case, was found distended almost to bursting (and which, no doubt, would have been the case had it not been relieved by vomition): the small intestines also were very full; and a part, I should think about a yard, of the ileum was joined to the colon by adhesions formed by a portion of the mesentery, and contracted and entangled into a complete mass of folds, and which blocked up the passage of the alimentary canal at that part. The villous coats of the stomach and small intestines were much inflamed. The intestines posterior to the obstruction were comparatively flaccid and empty, a few

knobs only of hardened feces covered with mucus were found in the colon and rectum.

Remarks.—The cause of vomition in this case, I should think, must have been purely mechanical—the alimentary matter could not pass on in consequence of the above described obstruction; and this, as I before remarked, from the great distention of the stomach and small intestines, would have most probably produced a rupture of the former viscus had it not been emptied in some measure by vomition.

ON RABIES IN SHEEP.

By Mr. C. A. HARRIS, Bromyard.

EARLY in the morning of the 23d of April last, several flocks, within the distance of five miles, were found to have been driven about, and sheep (nearly all ewes and lambs, and most of the latter), to the number of about seventy, bitten; of which number a few only were killed, or seriously injured, but some had lost an ear each, others a portion of tail each, while others had slight wounds on their faces and legs. A dog was found with one flock, and that at the extremity of the line, and which dog, after he was destroyed, was recognized as having been seen that morning by two persons in different places in that line, and had rather disputed the pass with one of them in a lane. He was described to me as a strong made lurcher-looking animal, coming from a considerable distance, and having before shewn a sheep-killing propensity; such was his propensity on this occasion, that out of twenty-nine lambs in one flock only three escaped unhurt. I have stated that a few only were killed, and a few more badly injured were slaughtered; but as the state of the dog was not suspected, little or nothing was done to many, and they appeared to be not at all affected for nearly a fortnight, when, however, many of them were most strangely seized, and, in another week, more than thirty were dead. I was now, for the first time, consulted; and found, on inquiry and observation, that the first symptom with all was, following and riding each other about, ewes, ewe lambs, and castrated males, equally the same, and which generally lasted three or four days, during which time they continued to feed, but evidently fell away, and the ewes lost their milk early. To this succeeded dulness or stupor for a day or two, terminating in the lambs in a succession of convulsive fits, but which was not the case with the ewes, as they, after the first two stages, became paralytic, and died comparatively easy. In some

there was a degree of wildness observable, in others boldness and pugnacity, butting at their companions, and any person who came near ; but many shewed nothing of the kind. In the second stage there was, in general, a mucous-like discharge from the nostrils, and, occasionally, ropy saliva from the mouth, though there did not appear to be any difficulty in swallowing what they ate or what was given them by drenching, but they did not appear to be thirsty, as none of them were seen to drink ; and I had water kept near some on which I was experimenting without seeing any decrease. Some were observed to eat dirt, and they would nibble at a stick held to them, or any wood that they came near, also the clothes of persons holding them for drenching, but not one viciously. One ewe I observed to fall always on the same side ; some lost the use of their hind parts first, and one lamb walked about two or three days bearing upon his stifle joints, and trailing the inferior parts after him. I have said that the ewes were not convulsed, but I believe all the lambs were so, and in one it was confined to the abdominal muscles, causing (as the person who was carrying him for me said) a jumping in his inside, and under which he soon died. They did not appear to be disturbed by any external circumstances (as is the case with horses affected with rabies canina, and which I have also seen in swine); but holding up the head to drench sometimes brought on the fits. The bleating of some of the lambs in the latter stage was most plaintive.

On post-mortem examination, there was, in general, fulness of the vessels of the brain, and I was told some of the ewes had water on the brain. The mucous membrane of the windpipe was slightly tinged, the liver of a clay colour; the kidneys of some (I was told) inflamed : I may plead guilty of neglect in this particular, as I did not examine all that I might have done, and that because I had before conceived, from the various accounts of several persons, that different parts were affected in different cases, and that no appearances were exclusively characteristic of the disease, and therefore of little consequence. In the way of treatment after the nature of the disease was suspected, some few lambs that had lost parts of their tails had other parts removed but without avail, as all that were bitten (without regard as to time), whether much or little, were sooner or later affected, and in about five weeks all were dead. I tried bleeding and antispasmodic medicines, and, as I thought, prolonged the lives of some ; but I afterwards found that some without any treatment lived much longer than the usual period. Some dogs, an ass, and a cat, were destroyed as mad about the same time, and in the line of country which the dog traversed ; but I did not see

any of them. Two females, a mistress and servant, had their heads wounded in drenching sheep, without, as yet, any ill effects; and the son of one of the proprietors of sheep, and who had killed the dog, had his thumb bitten through a glove, on whose account I have delayed sending this, as no means were taken, and his friends affect to believe that there was nothing the matter with the dog.

P.S. Some years since about twenty sheep were bitten by a dog, and (as I was told at the time, but too late for me to see them), all died mad.

COMPARATIVE ABSENCE OF BROKEN WIND IN FRENCH HORSES.

By NIMROD.

I HAVE often thought that, if sportsmen would more frequently than they do give you some results of their experience in the stable, it would only be your due in return for the information they receive from the perusal of your very useful periodical. I have resided nearly five years in France, and have not seen five broken-winded horses, although I have kept a sharp look out for them, particularly on market days at Calais; also amongst the post and coach horses. It is generally admitted, that in this part of France, they are rarely to be seen; and I am unable to speak as to any other part. There must be a cause for this, and as I think the subject worthy of your consideration, I will enumerate a few particulars relating to their treatment, out of which you may select one or two that might be made the subject of scientific inquiry by the profession.

First.—The hay in this part of France is wretchedly bad, and particularly so in wet or even showery summers. *But it is not allowed to sweat in the rick.* What little fermentation it is subjected to, is in the wind-cock in the field, where it often remains till, to all appearance, it is spoiled. With the exception of that of this summer, I have never found any fragrant hay in France.

Secondly.—All descriptions of horses here eat wheat straw—say a small truss a day. A Frenchman will tell you “it is good *for the breath.*”

Thirdly.—No French horse in work, and very few out of work, are turned out to grass: they are never left out all night.

Fourthly.—Coach and post horses do not go so fast here as they do in England; but cart horses go faster, and draw much

heavier loads. There is a stud of fish-cart horses near my house ; but neither amongst them, nor in the common carriers, scavengers, boat, or water-cart horses, can I find broken wind.

Fifthly.—With respect to water, French horses have their bellies filled with it, as our cart horses have in England ; but bran is generally stirred into it—in the coach and post-horse stables always. The latter eat beans.

Sixthly.—I have not met with a roarer—not even a whistler, in France.

On these points I only hazard one or two queries. Is that violent “sweating” that we subject our ricks to in England beneficial as to the nutritive quality of hay, or has it a contrary effect in exciting thirst, fever, &c.? Is the fragrantcy of hay a recommendation of it to the palate of a horse? I have my doubts on this subject, and will say why. I saw an experiment tried, some years back, in Wales, as to whether the preference would be given to fragrant meadow hay, or musty florin grass, harvested in November. It was tried on nine horses, five of which were mine, and each horse left the former for the latter, devouring it most greedily. “There is no accounting for taste;” is a standing apothegm applied to the human race; and it may be difficult to account for the fact of certain apparently inviting and highly succulent grasses being refused by the horse when feeding, *ad libitum*, in pastures.

You may expect me to say a word or two on shoeing. It is performed here in the coarsest and most unworkmanlike way ; not even generally with the counter-sunk nail ; yet I see very few horses lame in the feet ; but then they go no pace, except in the newly established pair-horse mail, and there has not been time hitherto to see the effect of that. Lots of broken knees, for want of the bearing-rein, and coachman’s hip.

Perhaps the following fact may also not be unworthy your notice:—In the month of May last, I purchased a well-bred mare galloway, much out of condition, from low keep, and no grooming. I prepared her for physic, and gave her five drachms of aloes, &c. No effect. Prepared her again ; gave her six, and no effect. Suspected the goodness of the aloes ; inspected it, and found it all right. Put her on green meat, and gave her six drachms prepared by another chemist, famous for the purity of his drugs : no effect, save a slight discolouration of her water, and a visible amendment in her legs and general condition, which improved very rapidly.

It may be proper to describe the sort of animal I am now speaking of, which can be done in a few words. Her age is seven (got by a Reuben’s horse that covered in this country),

and of a very violent temper, as her own brother was, who was put into the Bologne and Calais coach, but did not come alive out of it, having kicked himself to death before he could be taken out of the harness. She is the most restive animal I ever had to deal with, but no work can subdue her. I was ten hours on her back yesterday, having ridden her to Bologne races and back, distance forty-four miles; and to-day she plunged worse with me than she had ever done before. My experience has led me to the conclusion, that horses which take strong doses of physic are strongest in constitution.

Near Calais, Aug. 14.

ON GASEOUS EFFUSION IN THE THORAX.

By Mr. J. P. ST. CLAIR, Morpeth.

THE months of May and June afforded me two cases of a rather singular nature. I have not seen a description of the disease in any veterinary work, although several of the symptoms are synonymous of other affections. The difficulty attending the discovery of the cause and origin of disease places our art in a degree of mystery; and not always having the opportunity of observing the malady in its primary stage, the difficulty is rendered still greater. The patient of the human surgeon can generally give an outline of his sufferings from the time that he first felt pain; but that is not the case with us. We have to content ourselves with the partial, and inconsistent, and frequently absurd account of a groom in one class of animals, and that of a cow-herd in another; and, after listening to their imperfect detail of symptoms, quite different from what we should have expected to have been the precursors of those at present existing, we form our own opinion upon the subject, and set to work to combat the enemy with all our skill. When our efforts prove successful, we set down our supposed correct diagnosis in the tablet of our memory; and when we are unsuccessful, we have at least the advantage of a post-mortem examination, from which we generally derive more real and valuable information than from our most fortunate cases.

It is not my intention to enter into the minutiae of both cases; but I shall give a general outline of the one that terminated fatally, the other being at present alive.

This was a quey, three years of age. I saw her on the 2d of June, thirteen days after calving, when the following symp-

toms were presented. Respiration rather quick and stertorous—pulse ninety, and hard—extremities cold—pupils slightly dilated—with an abundant flow of saliva from the mouth. There was an emphysematous swelling extending from about the fifth cervical to the twelfth dorsal vertebra, and as far down as the olecranon on the left and the coracoid process of the scapula on the right side. The same tumefaction was seen about the lips and around the orbits of the eyes. The tongue was slightly swelled, protruded, and of a bluish cast; the head was stretched out to its utmost extent, seemingly to facilitate respiration (this led the owner to the belief that she was affected with *cliers*); there were two or three foetid motions, of a pultaceous consistence, in the course of the day, two laxative draughts having been administered previous to my attendance.

Venesection ℥x, magnes. sulph. ℥xvi. She appeared very much relieved from the bleeding. A powder of nit. pot. et. antim. tart. was then ordered to be administered in gruel in the evening. There not being any inclination to partake of food in any form, thin gruel was frequently poured into her with a horn.

3d.—Symptoms much the same as the previous day, but the pulse rather smaller, and the emphysema extending. The cathartic drink was repeated.

4th.—Bowels freely opened—pulse at the submaxillary nearly imperceptible. A blister was applied to the throat, which rose well, but without affording any apparent relief.

5th to the 8th.—Repeated doses of sulphur and gentian were administered, with gruel enemata.

8th.—Gradually sinking: the emphysema has now become universal, every part of the surface of the body being affected, with the exception of a few inches at the extremity of the tail.

She died on the twelfth.

Sectio cadaveris, three hours after death.—On removing the skin the subcutaneous cellular tissue presented a yellow aspect, and felt like blown veal. On dissecting away the parietes of the abdomen, the cause of the laborious respiration was evidently manifested; the anterior part of the rumen, bounded by the diaphragm, was firmly adherent to that muscle, and presented a gangrenous appearance. The stomachs and intestines were now removed. No particular marks of disease were perceptible in the rumen, with the exception of the abovementioned part, which was much thickened and softened, and quite black. It was easily lacerated with the fingers. The whole of the stomachs were loaded with half-digested food, which shews the necessity of active purging in cattle. The interior of the abomasum was

considerably inflamed. The adipose membrane enclosing the kidneys presented the same appearance as that of the subcutaneous cellular tissue. There was a large mass of inflated cellular membrane concealing the uterus, which had to be dissected away before I could come at that viscus, which I found quite healthy.

On removing the walls of the thorax, a large volume of air made its escape; the lungs were considerably collapsed, and engorged: thick purulent matter was found in the larger bronchia; the pericardium presented the same appearance as the cellular tissue previously described; the heart was smaller than natural, and much thinner and softer in its parietes; the bloodvessels of the brain were turgid, and the plexus choroides slightly inflamed.

At times this gaseous inflation is present in the human subject, and is supposed to take place spontaneously; but, according to the opinion of Dr. Baillie, it is a secretion from the bloodvessels, or it may come from a rupture of the mucous membrane of the trachea. It frequently occurs after violent efforts, particularly in puerperal women. May not this have arisen from the same cause, or from a lesion in the lungs? but there was not any perceptible lesion here. If I may be allowed to draw a conclusion, my opinion would be, that it is most analagous to pneumatosis spontanea, class *cachexiæ*, order *intumescentiæ* of Cullen.

NEW TREATMENT OF SPLINTS.

By WILLIAM SEWELL, Esq., Assistant Professor, Royal Veterinary College.

It is several months since I introduced a new operation for curing lamenesses in the horse, generally caused by contusions which occasion periosteal and ossific diseases. The morbid growth of bone is so rapid, that the inelastic periosteum cannot accommodate itself to the osseous deposit: hence distention, inflammation, pain, and lameness. The ordinary treatment often fails, or is tedious and uncertain in its results. Of the old practice of firing, applying caustics, puncturing, bruising, blistering, or other stimulants, I had long observed the inefficacy, and for several years I had employed setons beneficially, but I now invariably adopt the new plan.

The most considerable class of these lamenesses are those resulting from nodes or ossifications, called splints. The ope-

ration, I call for distinction, subcutaneous periosteotomy, or division of the periosteum under the skin, without a corresponding external incision. In human surgery an operation, the same in principle, is performed for nodes, but by an incision from without, the scar consequent upon which it is so desirable in veterinary practice to avoid. Some practitioners cut through the skin to the bone with a hot iron: this is a severe remedy.

The wound takes a much longer time to heal, and leaves a cicatrix, which is liable to abrasions and bruises from the opposite foot by cutting, when on the inside of the leg, and that is a very serious defect.

The outside of the fore and hind legs are most liable to these diseases from kicks and contusions; next, the inside of the fore-arm or radius, where it has no muscular covering, and also the sharp edge of the tibia, and sometimes the pastern bones, from timber-leaping, &c. I have operated successfully on all these parts, and have found no other mark left than a cicatrized spot where the instrument was inserted. The utility of the operation has been confirmed by several practitioners; and pupils who left the College during the recess last autumn have disseminated it widely among their veterinary friends.

In chronic cases previous preparation is seldom necessary, beyond keeping the parts for a short time wet with cold water; but where the inflammation is acute, attended with swelling, and a tense adhesion of the skin, these symptoms should be first allayed by topical bleeding, fomentations, poultices, and the administration of a purgative, until the skin is relaxed.

Commence the operation by taking up the skin between the fingers and thumb of the left hand, and make an orifice with a knife, lancet, or with scissars, sufficiently large to admit the probe-pointed periosteotomy knife, which passes under the skin the whole length of the ossification; then withdraw it, cutting through the thickened periosteum down to the bone. Contrary to my expectations, I have found this division of the inflamed membrane attended with very slight pain to the animal. If the disease or lameness be of long standing, a small tape or thread seton may be inserted, and kept in a few days.

The operation is very easily performed in from one to three minutes; but I consider it necessary only when there exists actual lameness: this, in the majority of cases, is *immediately* removed. A slight inflammation and swelling supervene the next day; the part may be fomented, and moderate exercise given; and generally in about ten days or a fortnight, the animal is fit for work. The enlargement considerably subsides, and, in some cases, becomes quite absorbed.

INFLAMMATION OF THE UDDER IN SHEEP, AND BRONCHITIS IN LAMBS.

By Mr. J. ADLINGTON AINSLIE, Canterbury.

IN the month of July, I had under my care some sheep, the property of a gentleman in the neighbourhood of Canterbury, affected with inflammation of the udder; and some lambs, which I treated for bronchitis.

The farmers and graziers in this part of Kent suffered considerable losses last season in their sheep stock. It is to be regretted that the profession and public are (as I apprehend) destitute of a standard work on the nature and treatment of sheep. Many are looking forward to the unceasing labours of a certain pen (to which we are already so much indebted) to supply the work so much wanted, in reference to this class of patients. Many of the practitioners in this part of the country do not attempt to treat any other animal than the horse. Whether this arises from the unwillingness of the farmer to pay for professional attention to stock generally, or from there being sufficient practice among horses, I cannot decide.

The cases I offer to your notice I found existing amongst the improved breeds we have in this county, and on some of those farms where the meadow land is contiguous to the banks of the river Stowe. The dryness of the atmosphere appeared to have agreed with them. They had lambs running by their side, and were fat enough for the butcher. It is only in such situations we find cattle or sheep in that condition; and grazing must have been a bad trade, and the health of the stock must have suffered, in consequence of the little rain in this part of Kent for the last two years. In the neighbourhood of Romney Marsh the sluices have been opened, and the ditches filled with sea water; the effect of which has been severe, and the losses to many very great. In the lambing season, not only were most of the lambs lost, but many of the ewes died from debility, through the nature and poverty of their food.

The first symptom observed in those which came under my care was lameness in one of the hinder extremities. On examination I found the udder affected on the same side, considerably enlarged and indurated. In that stage I abstracted blood from fourteen to sixteen ounces; and gave sulph. magnes. $\mathfrak{z}\text{ij}$, pulv. zingib. $\mathfrak{z}\text{ss}$, bol. armen. q. s. in half a pint of warm water; and ordered fomentations to the udder. This treatment I found successful. Some cases had been treated by the herd,

previous to my being consulted. In them I found abscesses had formed in the udder. These I opened; gave the aperient as before mentioned; had them sheltered from the sun, and ordered all the lambs of the flock to be weaned. The ewes had some salt given to them, and are doing well.

The only cause for this that I can assign is, the change produced in the system from exposure to cold after shearing, the weather being rather stormy about that period. The udder, being the organ under increased vascular action, was most susceptible of disease from any cause that would disturb the balance of the circulation.

In the lambs I treated for bronchitis the symptoms were, loss of appetite, tenderness on pressure to the throat and abdomen, wheezing cough, &c.: I gave sulph. magnes. ʒiv, pulv. zingib. gr. xv, bol. armen. q. s., to be administered once a day until the bowels were relaxed; and applied a strong liniment to the throat. They recovered, and are doing well.

ON INFLAMMATION OF THE UTERUS IN SHEEP.

By Mr. JOHN CLARKE, London.

INTERESTING myself as I do in your valuable journal, and in the forthcoming work of one of you on sheep, I venture to give you a short notice of two or three diseases which affect a flock of south-downs in the north-west corner of Essex, and I believe I may add a considerable district where many sheep are kept, extending towards Royston and Cambridge.

The first I shall mention is a disease by which a quantity of water gradually accumulates in the uterus, usually beginning about a month before lambing. Sometimes the ewe increases in size until the weight becomes insupportable, and dies from weakness before or shortly after parturition. In other cases, when slightly affected, she recovers; but generally with the loss of the lamb, to which the disease seems to extend, and that often when the ewe has no perceptible ailment. The lamb, however strong it may appear when brought forth, soon refuses to suck, and dies on the first or second day; and when opened, is found to contain water, filling the paunch, other intestines, and bladder; hence the shepherds term them *water-bellied lambs*. The loss of sheep from this disease is trifling; but of lambs I have known it from ten to fifteen per cent., or even more. It is, I believe, rightly attributed to the ewes having too many turnips before lambing, and may be remedied by giving more dry food, and but few or no turnips; but this treatment has failed when not adopted as soon as the first symptoms appeared.

2. Inflammation of the uterus attacks the ewe from one to four days after parturition, and generally when this has been difficult, or any violence has been used in extracting the lamb; but sometimes without any assignable cause. The treatment employed is copious bleeding; but I have hardly ever known it succeed. The loss of ewes may be estimated at from two to five per cent.

3. The most unaccountable and shepherd-vexing disease of all that I am acquainted with, is the joint-garget in lambs. This attacks them from two to five weeks old, commencing with a general stiffness and indisposition to suck, then falling into the knees or hocks, or both, which swell very much; it terminates in incurable lameness and worthlessness, in two cases out of three. This disease must belong entirely to the lamb, as when another is put to the sheep it generally does well. I do not hint at the cause of this disease, as the most experienced observers confess themselves entirely in ignorance of it; and remedy I know of none. It is rather capricious in its attacks, and sometimes carries off from ten to fifteen per cent., of apparently the healthiest and finest lambs of the flock.

In conclusion, I beg to observe, that my reason for selecting the above diseases is, because I have never found them described in any work on sheep; but if this communication should be the means of calling your attention and that of others to the fact that such diseases do exist, my object will be fully answered.

RECOVERY IN A CASE OF HYDROPHOBIA AFTER EXCISION OF THE BITTEN PARTS.

To the Editor of THE LANCET.

SHOULD you consider the subjoined case worthy the notice of your numerous readers, you will oblige us by inserting it. We have the honour to be, Sir, your obedient servants,

T. TOMKIN, Witham, Essex.

E. S. VARENNE, Kelvedon, Essex.

August 9, 1835.

Lucy Farrer, ætat. 35, had a favourite dog, which became sickly about the middle of last June. It was restless and averse to food. On the 22d, while she was coaxing the animal to eat and drink, it became irritable, snapped at and bit her in the little finger of the right hand, and walked away. The wounds,

which were very trifling, becoming painful, were poulticed in the evening, and on the third day they healed. The dog was allowed to remain at large for the ensuing two or three days, and during that period bit a cat, to which he had previously been much attached, and snapped at one or two persons in the neighbourhood. At the end of a week, he, as well as the cat, were, unfortunately, killed; not however before the throat and salivary glands of the dog had become enlarged, the flow of saliva much increased, and the eyes slightly inflamed.

About 4 P.M. of the 30th, the patient suddenly felt a pain in the back of the head, accompanied immediately by the appearance of a dark curtain, which seemed "full of bright spears" before the eyes, and which was followed by a slight loss of sense. This shortly disappeared, leaving a painful sensation in the left side. These fits were repeated at uncertain intervals for several successive days, but never without some uneasiness in the neighbourhood of the little finger. About the same time she had become averse to solid food and to drink, and this aversion along with the other symptoms gradually increased until the evening of the 5th of July, when she first applied for medical assistance. It afterwards transpired that on the preceding day she happened to be drawing some beer from a cask, when she suddenly became insensible and giddy, but immediately recovered on stopping the cock. It does not appear that the person who is the subject of the present remarks is of a nervous temperament or very irritable, but, on the contrary, has always proved herself, in her humble sphere of life, to be a strong-minded woman. And although the dog was destroyed at her request, in consequence of a vulgar prejudice, neither fear nor dread induced the disease; because, until the morning when she underwent the operation, she was perfectly unaware of the nature of her disorder, and had also previously reprimanded her fellow-servants for informing her first medical attendant that she had been bitten, a subject she herself had refrained from mentioning, not considering it of sufficient importance.

July 5th, 9 P.M.—Pulse 80; eyes bright and rather prominent, but not tolerant of light; with slightly contracted pupil. Mind comfortable. Her chief complaint is of pain in the side. Bowels in their ordinary condition.

V. S. ad 3xvj. Mist. Aperientis, 3iss, 6tis horis.

6th, 4 P.M.—Bowels but little opened. Eyes and head somewhat relieved, though the aversion to solid food and drink continues. Has taken the medicine with difficulty, each dose having been followed by a convulsive fit. Arm and hand slightly mottled. Continuatur mistura.

7th, 11 A.M.—To-day, at the express desire of the patient, Mr. Tomkin, of Witham, was called in in consultation. The aversion to swallowing and to the sight of fluids, and also the intolerance of light, are greatly increased. With some difficulty she was prevailed upon to take a little milk, which immediately produced spasm of the throat, and a fit, of which the following were the chief symptoms. A sensation of pain proceeded from the little finger across the back of the hand to the radial side of the fore-arm; thence towards the elbow, and along the inner side of the arm to the axilla. It then followed its course up the neck in the direction of the sterno-cleido-mastoideus muscle, and was most intense immediately beneath the ear. Acute pain in the back of the head was next experienced, the dark cloud at the same moment appearing before her eyes, and she became senseless. The pulse, which had gradually quickened from the time of the fluid being presented to her, was now weak and fluttering; the face was flushed, the neck tumid and reddened; the salivary secretion was increased; the breathing was hurried; and the arms and head were thrown about in all directions. All this occupied about five minutes, after which she became gradually sensible, and then complained of severe pain in the side. There was no thirst of any consequence, but a constant burning in the mouth and pharynx, so that the passage of fluid was compared to “the hissing of water thrown upon hot iron.” The pain undergone was described to be of the most violent description, and yet, if asked to drink by either of her surgeons, she never positively refused to do so, much rather endeavouring than otherwise to overcome the great dislike she had to fluids. Mr. Tomkin suggested a trial of the liquor arsenicalis, and the use of unguentum veratriæ to the arm and throat.

℞ *Liq. Arsenicalis* gutt. xv, in lacte, stat. et repet. in dosibus guttarum x, 4tis horis.

8th, 11 A.M.—On taking the medicine, the quantity of which did not exceed a tablespoonful, some severe fits of the same convulsive character were produced, followed by distressing tremor, and constriction about the chest. Says she has also felt very sick, but has not vomited. Has had several fits during the night without any apparent exciting cause, and four this morning since six o'clock. Fore-arm painful. One of the wounds slightly inflamed. With the concurrence of Mr. Tomkin, the bitten parts were freely cut away by Mr. Varenne.

℞ *Liq. Arsenic* ℥v, 4tis horis; *Veratriæ* gr. vii; *Adipis* ʒiv. M. Brachis et coleo infricatur per sextam horæ partem.

9th, 11 A.M.—Has had no pain in the fore-arm since the excision, and but one fit. She was senseless for twenty minutes

during the night. The ointment, the entire quantity of which was applied in the evening, produced a general glow over the arm and neck, and seems to have been serviceable in allaying the pain of the throat, which pain has been constant for the last two days. Each dose of the medicine makes her sick. Aversion to fluids diminished.

Liq. Arsenicalis gutt. ij. 4tis horis. Rep. *Unguent.* Pars magnitud. nucis avellanæ partibus affectis 4tis horis infricatur.

15th.—Since the 9th the patient has been gradually improving, though the process of deglutition is even at present rather painful, and the trickling of water cannot be borne without uneasiness. Her gums are swelling, probably from the effects of the arsenic, which she has been taking in the last-mentioned dose ever since. From the steady progress which has already been made towards recovery, there seems every chance of a permanent cure.

Aug. 10th.—Up to the present time there has been no return of the complaint.

All the symptoms of hydrophobia which this woman had appear to have arisen from nervous irritation, and not altogether from absorption of the virus, the pain being clearly traced along the course of the musculo-spinal nerve towards the elbow-joint, and from thence to the axilla, and afterwards to the brain. The case warrants, we think, the free excision of bitten parts at any period after an accident, as a practice likely to prove the best prophylactic against the terrible disorder of hydrophobia; and also as one which ought to be adopted, if practicable, even when the disease has set in, until experience shall have decided upon its utility. Dr. Bardsley, of Manchester, in his able article on the subject in the “Cyclopædia of Practical Medicine,” quotes a case, related by Professor Rust, where the wound was excised thirty-one days after the bite, and after hydrophobic symptoms had appeared, and where the patient’s life was saved.

THE PHYSIOLOGY OF THE EYE OF THE HORSE.

By Mr. J. C. MOLYNEUX, *King Street, Kilkenny, Ireland.*

Being a portion of the Essay read and defended by him at the London Veterinary Medical Society, previous to his obtaining the title of Honorary Fellow of that Society.

THE eye of the horse is so placed that it commands nearly a whole sphere of vision, being situated at the side of the head, and pointing a little forward. Thus he has ample visual means

to seek his food, avoid danger, and render useful service to his master, man.

Man needs not this peculiar adaptation of his visual organs, because he fears to meet no enemy, and regards all animals as in every way his inferior; his eyes, therefore, are placed in front. In birds, the lateral situation of these organs enables them to see objects in every direction; but then they cannot see small objects with both eyes at once, and this accounts for the rapid motion of their heads. The eye is supported behind by muscles attached to different parts of the orbit, and it rests, or is embedded in, a quantity of adipose matter, which occasionally becoming partially absorbed, accounts for the sunken appearance which the eye sometimes presents in disease. This fatty matter materially assists in preserving the proper position of the eye, and giving steadiness to its movements. It has also another function to perform, of which I shall speak presently.

In front, the eye is supported and covered by the palpebræ or eyelids, which, closing rapidly, protect it from any injury that threatens. They also, by the act of closing, afford a sufficient respite to a delicate organ, which would otherwise be injured and worn out by the constant stimulus of light. They likewise, by their approximation to each other, form a conduit for the tears.

The horse is not possessed of supercilia or eyebrows, such as we find in the human subject, and which give peculiar expression to the features; yet we find certain elevations formed by the orbital process of the frontal bone, also a few straggling hairs, and very frequently a fold of the upper lid; all of which combined tend to preserve the eye from the too vivid rays of light, and protect it from foreign bodies by which it would otherwise be injured. The fold of the upper lid, however, horsemen do not like to see, as they think it denotes old age, weakness, or disease of the eyes, which appears to me to be erroneous. There is much design evident in the formation and arrangement of the eyelashes—long and thick—different rows of them on the upper lid, from which direction most danger is to be feared; thin towards the inner canthus, on which, during the act of grazing, little light can impinge; longer and thicker towards the temporal angle, where, during the bending of the head, the insect might be most likely to attack, and the light would fall most annoyingly; shorter and thinner on the lower lid, where danger could hardly come; but thickest there towards the nasal angle: and immediately below, and almost on the cheek, several long, scattered, half bristly hairs, projecting downwards, and which, while the animal gathers his food, act as watchful sentinels, and prompt the lids to close before harm can arise, either

from the irregular shooting herbage, or the noisome insect. The orbicularis muscle is in action while the animal is awake, and the lids close in sheep, because they have lost the elastic power which supported them. The tarsal cartilages preserve the shape of the lids, and adapt them to the convexity of the globe. The levator palpebræ and epicranii assist in raising the lids; the tarsal ligaments are the connexion of the lids with the rim of the orbit. The meibomian glands secrete a fluid for the purpose of lubricating the edges of the lids, and preventing adhesion from taking place between them while asleep, or the tears from escaping.

The tunica conjunctiva acts as a covering to the eye, and helps to retain it in its situation in the socket, while it also secretes a transparent mucus which prevents irritation from the saline particles of the tears; it also seems to be a connecting medium with or a prolongation of the skin which covers the whole body. We have a proof of this in most of the serpent tribe, which, when shedding their skins, cast off a delicate fine substance from the eye-ball—a reflection of the conjunctiva. We cannot but admire the beautiful construction of this membrane, transparent over the transparent cornea, and intercepting none of the rays of light, nor producing defective vision. The membrana nictitans is also a wise provision of nature acting as a third eye-lid. In some quadrupeds, however, it is, in a manner, wanting (as in the monkey); but its absence can be accounted for: nature gives nothing in vain, and as this animal uses his paws with great dexterity, he can sufficiently protect his eyes. For the same reason it appears to be denied to man, to whom in form and use of the superior extremities he is so nearly allied. It is very well developed in the eagle and elephant, for the former, when he soars aloft the better to observe his prey, requires a protection from the ardent rays of light; and the latter, in a state of nature, carrying his head upward in search of his food amidst the boughs of the trees, needs a similar protection. You are all well aware by what simple mechanism it has been supposed to act. I have described the mass of fat with which the back part of the eye is surrounded, and the connexion of the haw with it. The retractor muscle draws the eye within the orbit; this fatty matter cannot be compressed, but it is forced out of its place; it glides over the os planum, pushing the membrana nictitans before it and over the eye, and it afterwards returns by its own elasticity.

Our worthy Assistant Professor considers that there are muscular fibres connected with the membrana nictitans; and I am inclined to agree with this opinion. They have not, it is true, been

demonstrated ; but we can imagine that the function of the membrane would be more perfectly performed by its possessing some muscular power of its own, instead of being the mere passive thing which it is supposed to be : and we are compelled to admit the power of many an agent whose actual existence has never been demonstrated to our senses. I would ask, how is the protrusion of the tongue out of the mouth accomplished ? there is no muscle at its termination to effect this ; or how do we account for the projection of the eye out of the socket when under the influence of fear ? The lachrymal gland, placed in the outer corner of the upper lid, is most admirably adapted for its particular function. It secretes the tears, which are composed of water and saline matter ; and, from the obliquity of the canthi, and the close apposition of the lids, this fluid, after having discharged its duty, is conveyed into the puncta lachrymalia. When an offending body rests on the conjunctiva, an increased quantity of tears is secreted, in consequence of the irritation produced ; and these, by the action of the lids, flow over, and are pressed upon every part of the eye ; the membrana nictitans then renders its assistance, by protruding over the globe, and thus the offending body is removed. The puncta lachrymalia are the receptacles for the tears, which are guided into them by the caruncula lachrymalia, placed in the inner canthus : thence the tears are conveyed into the ductus ad nasum, which is a canal first bony and then membranous, and terminating on the cuticular portion of the nostril, and thus avoiding irritation of the schneiderian membrane.

The four straight muscles of the eye perform the functions which their names imply ; the two oblique ones will give the eye a kind of rotatory motion, but in contrary directions to each other. Mr. Hunter directs a person to look at the sails of a windmill when in motion as a proof of this ; but I cannot here agree with him, for I am certain that I could do so and keep my eye perfectly fixed and steady. The retractor oculi is a muscle peculiar to quadrupeds, and accounts for the difficulty, or almost impossibility, of operating for cataracts on such animals. Our Professor told us, not long since, that he had to use a counteracting force of twenty pounds, in order to fix the eye ball.

The sclerotic coat, from its density and elastic property, preserves the form of the globe, gives attachment to the muscles, affords protection to the internal parts, and allows a passage to the optic nerve. The choroid coat, from its vascularity, is evidently for the purpose of the growth and nourishment of parts ; it has a black secretion—the pigmentum nigrum, which is to absorb the too divergent rays of light passing through the cornea,

while the tapetum lucidum, by means of its bright hue, reflects the rays, and brings them more forcibly on the retina. Man has no such construction in the choroid coat. The retina is the focal point of that membrane on which the picture is painted; and the sensation of its presence is conveyed to the sensorium by nervous energy. The cornea is composed of horny plates, with fluid interposing, which in the living state is transparent; but on death taking place, Sir Charles Bell says evaporation occurs; the layers of horn become compressed together, and a moisture, which is forced out and congeals on the surface, causes that glazy opacity of the cornea which always occurs.

The aqueous humour preserves the convexity of the cornea, and admits the iris to float freely in it; it is also supposed to assist in vision, by refracting the rays of light passing through the cornea. The iris regulates the quantity of light necessary in order to the formation of a distinct picture on the retina, by contracting or dilating the pupil, as occasion may require. The corpora nigra seems to act as an internal curtain, not only stopping, but by their pigment absorbing, the rays of light which fall too obliquely to be refracted to a distinct and perfect focus. In the foetal state there is a membrane extending from one side of the iris to the other, called the membrana pupillaris; but, on the animal coming into the world, the stimulus of light on the iris, which was before motionless, causes it to contract and dilate; the membrane thus becomes broken, and disappears by absorption. The iris ever after is indebted to light for its motion and the performance of its natural functions. It is a new stimulus, and to the power of which it responds, as the lungs of the newborn infant, also previously motionless, begin to obey the influence of an unaccustomed agent—atmospheric air. The ciliary processes discharge a function of a somewhat similar character. The crystalline lens, being of a double convex form, is the grand refracting power of the eye; it causes the rays which pass through it to converge, and would bring them to a focus immediately behind it. The vitreous humour, which is of less density than the lens, while it fills up and maintains the globular form of the eye, modifies the conveyance of the rays, so that the focus is actually within the vitreous humour, and a little anterior to the retina. Then the rays decussate, they diverge and fall upon the retina, so as to produce an image in an inverted position.

It was Dr. Young's opinion, that the crystalline lens was muscular and fibrous in its structure; and that it had the power of altering its degree of convexity, and accommodating itself to near or distant objects. Sir Everard Home and John Hunter agree with him. I confess that I do not coincide with this doc-

trine. These are great names, but the result of their industry has placed men, otherwise at an immeasurable distance, nearly upon a level with themselves. For my own part, I have read these, and all other standard authorities, as much as I could with an unprejudiced mind, with a bias or intention neither of believing nor of doubting; and when, in my honest search after truth, I could not coincide with their theories, I have adopted one from another quarter, or one of my own: therefore, gentlemen, you will not accuse me of presumption if I differ from authorities, no matter how high.

I confess that I agree with Dr. Ramsden, who attributes far more to the cornea than to the lens; and which he proved to be correct by his ingenious experiment of fixing the head, and observing the changes in the convexity of the transparent cornea as the eye was directed to near or to distant objects.

In considering vision to be achieved by means of an image formed at the bottom of the eye, Paley, in his *Natural Theology*, thus remarks:—"We never reflect without wonder on the smallness, yet correctness of the picture, the subtleness of the touch, and fineness of the lines. A landscape of six or eight square leagues is brought perfectly into a space of half an inch in diameter; and yet the multitude of objects which it contains are all preserved, and are all discriminated in their magnitudes, positions, figures, colours; and a stage-coach passing at its ordinary speed for several minutes, passes in the eye only over the one-twelfth of an inch, yet is the change of place in the image distinctly perceived throughout its whole progress."

I shall not attempt any kind of description of the nature, properties, and laws of light; but it is absolutely and indispensably necessary for vision. Light is derived from various sources:—1st, from the sun and stars, the great illuminators of the universal system; 2d, from combustion; and, 3dly, from chemical or electrical or galvanic action, besides which, and how far independent of these I am not prepared to say, there is a phosphorescent light, both natural and artificial.

Light consists of very minute particles, emitted in straight lines in every direction, and of the smallness of which it is impossible to form an adequate conception. It travels at a rate of 200,000 miles in a second of time. It is, after all, a compound body, for every ray of light is composed of particles capable of reflecting very different colours. We are at little loss to account for the reason of the image being depicted upside down upon the retina, for the rays rendered convergent by the cornea and the lens, and being brought to a focus, and still continuing their course, those which impinge on the upper part of the cornea must strike the lower part of the retina, and those which enter from

below must continue their path to the upper part. It is habit and the exercise of judgment which sets all this right in the mind. It is in the same way that, out of two retinal paintings, differing more or less from each other, the mind is conscious of only one perfect one. If the eyes are alternately closed we shall sometimes be surprised at the different pictures painted on each retina. It is by a rapid intellectual amalgamation that they become one consistent and perfect one. The question of the decussation of the fibres of the optic nerve has nothing to do with this explanation; it is purely an affair of the mind.

When either eye is pushed a little from its axis, or the Irishman (I am one) drinks a little too much whisky, and the judgment begins to be impaired, this amalgamation no longer takes place, but we have a double vision, as curious as it is perfect. How the eye adjusts itself to the distance of the object of vision, has caused an endless theme for argument.

I consider that it is effected by the muscles, particularly the recti, assisted, doubtless, by the retractor and the palpebræ, which compress the globe and alter the actual distance between the cornea and the retina. There is a wonderful mechanism for effecting this in birds. In persons under the influence of fear, the eyes are open, and the eye is protruded, which is performed by the trochlearis muscle. We observe, on the other hand, that near-sighted persons close the lids and compress the eye, in order to obtain a correct view of the object. Thus we perceive in this admirable organ a power by which it can act as a telescope and a microscope, as circumstances may require, a degree of perfection to which no instrument of human construction has ever yet been brought.

TOXICOLOGY;

ON THE EFFICACY OF THE HYDRATE OF THE PEROXIDE OF IRON AS AN ANTIDOTE FOR ARSENIC.

By M. BOULEY, Jun. M.V., Paris.

A VALUABLE Report, drawn up by this gentleman, of the poisoning of seven horses by means of the arseniate of potash, a preparation of arsenic, extensively used in the preparation of that beautiful pigment "*Scheele's green*," was inserted in our last Number. Soon after these unfortunate cases, the antidote for arsenic, proposed by M. Bunzen, began to be spoken of. It may be readily supposed that M. Bouley was one of the first to put it to the test; and, as many chemists and medical men were experi-

menting with it on the dog, M. Bouley selected the horse, partly because the difficulty of exciting vomiting in the horse rendered a painful and often fatal operation, the ligature of the esophagus, unnecessary; and partly because, by taking another species of animal, he might, while he would probably arrive at the same conclusion, have the benefit of some comparative, and therefore more conclusive results.

His report of his experiments was presented to the Royal Academy of Medicine, approved of by that learned body, and entered among their records; and the readers of THE VETERINARIAN are now presented with a summary of it.

The antidote consisted of the hydrate of the peroxide of iron. Ochre, according to Fleury, is a native hydrate of the peroxide of iron, mechanically mixed with earthy ingredients. A pure hydrate is procured with much difficulty, on account of the facility with which it parts with its water. It is almost identical in its composition with the mineral called *brown hematite*, and consists of forty parts or one atom of the peroxide, or nine parts or one atom of water*. M. Bunzen advocated its efficacy in cases of poisoning with *arsenious acid*, or the common white oxide of arsenic. M. Bouley was naturally anxious first to try its power over the arseniate of potash, of the virulence of which he had lately had such fatal proof.

We will now, in the continuation of our summary, adopt nearly his own words.

* The following was the method of preparing the hydrate as recommended by M. Lassaique:—

“Take a certain quantity of iron filings, and pour on them, by little and little, in order to avoid too much effervescence, four times the weight of the nitric acid of commerce. One part of the nitric acid yields its oxygen to the iron, and transforms it into a peroxide, which immediately combines with another part of the nitric acid not decomposed, and the result is a perntrate of iron. From this reaction, which is very intense, there results a disengagement of heat, and of gas of deutoxide of azote, which is transformed, by contact with the atmospheric air, into suffocating vapours of nitric acid. When this action has ceased, ten or twelve parts of water are added, in order to dissolve the perntrate of iron, and to detach the portion of iron filings that have not been acted upon, and which are precipitated to the bottom of the vessel.

The solution being decanted or filtered, ammonia is added, by little and little, until reddened turnsole paper takes a blue colour, indicating that there begins to be an excess of alkali. There is immediately formed an abundant precipitate of a yellow brown colour, the hydrate of the peroxide of iron, which is received on a piece of linen stretched at the bottom, and then washed with boiling water until the turnsole paper is no longer acted upon.

CASE I.

Oct. 25, 1834.—I administered to an aged horse, of moderate size, two ounces of arseniate of potash, and immediately afterwards one pound and a half of the hydrate of the peroxide of iron, dissolved in two gallons of water. The animal, that had been cast the better to enable us to administer the bane and the antidote, got up without difficulty. During about two hours he seemed to be much depressed, and then he regained his gaiety and usual appetite. This continued until the following day at noon, when he seemed to be exceedingly dull, and refused all kind of food. In the early part of the night he had slight colicky pains and frequent diarrhœa; these rapidly increased, and he died about four o'clock on the morning of the 27th.

Post-mortem examination, sixteen hours after death.—Inflammation of the peritoneum, and injection of the vessels of the epiploon. The lining membrane of the right sac of the stomach was red, thickened, and ecchymosed through its whole extent; and at some points abraded. The small intestines presented the same appearances, but less marked; the cæcum and colon were filled with the antidote, and their lining membrane was intensely red, and double its natural thickness. In short, this horse presented precisely the same lesions that were found in the seven that were poisoned by the arseniate of potash, and it was evident that the antidote had failed, although administered immediately after the poison.

I should have repeated the experiment had I not heard that Messieurs Renault and Lassaique had tried the effect of this antidote on several cases with no better success than I had experienced. M. Lassaique then kindly suggested to me that, although he knew that the hydrate of the peroxide of iron was an antidote against arsenious acid, it might fail against the arseniate of potash, on account of the greater affinity which the arsenious acid had for the potash; I therefore determined, instead of the antidote of Bunzen, to try the sulphate of iron, under the hope that the laws of chemistry would be obeyed, and that the bane and the antidote would be decomposed, and sulphate of potash and arseniate of iron be produced; the former harmless, and the latter not sufficiently powerful to destroy life. I proceed to relate the result.

CASE II.

Nov. 1st, 1834.—Two ounces of the arseniate of potash were given to an old grey horse, of middle size, at nine o'clock in the morning, and, immediately afterwards, a pound of sulphate of

iron, dissolved in six quarts of water. The animal did not seem to be in the least degree affected until the following morning. By noon he was exceedingly dejected, and had evident colicky pains. On the following night diarrhœa came on, and was almost constant; at three o'clock in the morning he fell on his litter, without the power of rising again; and at five o'clock in the morning he died. The same lesions were found, but in an aggravated degree. The sulphate of iron seemed to increase the activity of the poison.

CASE III.

I would not abandon the arseniate. On Nov. 7th, at 8 A.M. I administered two ounces of it to an old horse, more than usually tall, and at the same time four pounds of the hydrate of the peroxide of iron—thirty-two times as much of the antidote as of the poison. This horse also appeared to be unaffected for twenty-eight hours: symptoms of poisoning then ensued, and at the end of fifty-four he died, after having suffered dreadfully. The same lesions were observed.

CASE IV.

I determined to give one more trial to the sulphate of iron, thinking it possible that I might have given it in too great a dose. On Nov. 10, at 7 A.M. I gave two ounces of the poison to a small horse, and at the same time eight ounces only of the sulphate of iron, dissolved in four quarts of water. The horse died at the expiration of fifty-two hours, and the lesions were the same.

My other experiments refer to the power of the hydrate of the peroxide of iron on *arsenious* acid. The experiments of MM. Orfila and Lesueur had shewn the necessity of giving very great doses of the antidote. I therefore began with small doses of the poison, such only as I thought were sufficient to destroy life, and my first trials were with the determining what quantity was necessary for that purpose.

CASES V & VI.

Nov. 9th, 1834.—I gave four drachms of arsenious acid to a small English horse, 9 or 10 years old, and which had been kept fasting during twenty-four hours. This dose of the arsenic not having produced derangement in any function, I on the 15th, or six days after the first dose, gave an ounce of the same substance. No effect being produced by this, I destroyed the horse on the 23d, apparently in good health, and after a very careful examination, I could not discover any lesion which I could attribute to the action of the poison.

CASE VII.

Nov. 28th, 7 A.M.—I gave one ounce and half of the white oxide of arsenic to a small entire horse that had fasted thirty-six hours. The animal remained in perfect health until the 5th of Dec. when he was destroyed, and no morbid change worthy of notice had taken place.

CASE VIII.

Dec. 7th, 8 A.M.—I administered two ounces of arsenious acid to a lame horse, seven years old. I at length attained the object at which I had aimed—he died fifty-two hours afterwards; and exhibited, on dissection, all the morbid lesions caused by the arseniate of potash.

CASES IX & X.

Dec. 12th.—Thinking it possible that the death of this animal might be the consequence of some peculiar state of the constitution, I gave two ounces each to two other horses. One, the oldest and poorest, died at the expiration of forty-six hours; the second, about eight years old, and of strong constitution, lived to the third day. The true morbid appearances of poisoning were found in both.

CASE XI.

From these three facts, I thought that I was justified in concluding that a dose of two ounces of the arsenious acid would poison a horse; and then I attempted to discover the power and proper dose of the antidote. *Dec. 16th,* I gave to a gelding nine years old, two ounces of the arsenious acid, and immediately afterwards four pounds of the hydrate of the peroxide of iron, in about eight quarts of water. Neither the poison nor the antidote produced any apparent effect upon this animal, who preserved every appearance of health until the 25th of December, nine days after the administration of the drugs; he was then destroyed. On examination after death, there appeared a deep erosion in the left sac of the stomach, of the size of a three-franc piece. A lesion of the same nature, of a rounded, lenticular form, was found in the right sac.

CASE XII.

Dec. 18th.—On the same day I had given the same quantity of the poison and the antidote to a gray horse, seven years old, who lived until the 28th, without the least sign of illness. He was then destroyed. On examining the carcass with the most scrupulous attention, the only lesion that could be found was a

slight inflammation about the middle of the small intestines, and which certainly would have soon disappeared. The success of the experiment in both these cases was complete.

CASE XIII.

Dec. 26th.—I gave to an old roan horse two ounces of the arsenic, and at the same time thirty-two times the quantity of the hydrated peroxide of iron. He took the poison well; but it was with difficulty that we could get him to swallow the antidote, and in spite of every care a part of it entered the trachea. It produced a frequent and somewhat violent cough, which continued many hours, and which appeared to fatigue the animal, although he preserved his ordinary spirit and appetite: but on the morrow there were evident symptoms of pneumonia, seemingly confined to the right lung. I endeavoured to combat this affection by the usual means, but on the 30th he died, without exhibiting the least sign of poison.

He was opened almost immediately, *and the stomach and intestines were in a healthy state*, with the exception that the matter contained in the colon and cæcum tinged the lining membrane of those intestines of a black colour, which was doubtless the effect of the antidote. The left lung was sound, but the right contained at its base two enormous vomicæ, and at its edge a great quantity of tubercles in a state of softening. The rest of its substance offered the appearance of recent acute inflammation, leading on to gangrene.

Although the animal died on the fourth day after taking the poison, the result of the experiment is altogether in favour of the antidote, since neither the stomach, nor intestines, nor the heart presented any of those lesions which arsenic invariably produces. The death was doubtless caused by an acute inflammation of the chest, occasioned by the introduction of the hydrate into the bronchi, supervening on an old affection of the same organ.

CASE XIV.

Dec. 20th.—I gave to an entire grey horse, old but healthy, two ounces of white arsenic, and thirty-two times the quantity of the hydrated peroxide. He continued until the 8th of January apparently in good health. He was then destroyed, and examined in the presence of the members of the Academy. There was a small quantity of citron-coloured effusion in the abdomen, and a false membrane of recent formation united the *sus-sternale* portion of the colon—that lying on the sternum—to the diaphragm. The left sac of the stomach was sound, but the

mucous membrane of the right sac was slightly thickened. The pylorus of the stomach, and the duodenum at its origin, had a reddish purple hue, and the mucous membrane was double its natural thickness. Through the whole extent of the small intestines there were red, marbled patches—evident traces of great inflammation. This lesion disappeared towards the cæcum. This last intestine was sound; but in the colon, on the contrary, in its *sus-sternale* portion, there was an erosion of an oval form, six inches long and three wide: the mucous membrane was completely destroyed, and the muscular one disorganized and thickened, and a yellow infiltration separated the muscular membrane from the serous one. The lungs, the heart, and the brain, were sound.

It was evident that the antidote, although administered at the same time with the poison, did not act with so much activity in this as in the other cases: it is yet impossible to deny its efficacy, since the animal that was the subject of this experiment was not destroyed until the nineteenth day after he had taken the poison, and not having exhibited any symptom of illness, although every horse that had taken two ounces of the arsenious acid, without the antidote, had died on the second or third day.

Hitherto the power of the hydrate has been considered when given at the same time with the poison; but it can be seldom thus administered. An inquiry of much greater importance lies before us—until what time after the ingestion of the poison may it be administered with success?

CASE XV.

Jan. 4th, 1835.—Two ounces of white arsenic, mixed with half a pound of honey, were given to an old and strong horse at 8 o'clock, A.M.; and two hours afterwards the counter-poison was given in the usual quantity. This animal was killed on the 12th, without exhibiting any symptom of illness. There were two lenticular erosions on the lining membrane of the right sac of the stomach; traces of slight inflammation in the small intestines and at the point of the cæcum, and small ecchymoses in the left ventricle of the heart. It was evident that the antidote, although not administered until two hours after the ingestion of the poison, had almost entirely neutralized its power.

CASE XVI.

Jan. 6th.—I administered the poison to an old middle-sized horse, and gave the antidote four hours afterwards. This animal remained apparently well, when it was destroyed. A great

quantity of yellow serosity was effused in the abdomen; but the stomach, small intestines, colon, and body of the cæcum were sound, except that there was a profound erosion, the size of a crown piece, at the point of the cæcum—the mucous membrane having been there completely destroyed.

CASE XVII.

The antidote was given twenty-five hours after the ingestion of the arsenic, and when the first symptoms of empoisonment began to develop themselves. The antidote was now powerless, and the horse died twenty-four hours afterwards, exhibiting, on after-examination, the most decisive traces of the influence of the poison.

CASE XVIII.

It appeared to me important to analyze the matters contained in the intestinal canal, and to ascertain whether, according to M. Bunzen, the arsenious acid had combined with the iron, and arseniate of iron had been produced. The poison and the antidote were therefore administered to a horse who was destroyed seventy-two hours afterwards, not having exhibited any symptoms of disease.

The contents of the stomach, small intestines, cæcum, and colon were collected separately, and conveyed to M. Lassaique, who, with a kindness which I shall ever recollect and gratefully acknowledge, proceeded to analyze them. He reported that it was impossible to recognize a trace of arsenious acid either in the fluid or more solid parts of the contents of these viscera, and that this induced him to believe that the greatest part or the whole of the poison had been neutralized by the peroxide of iron, and expelled by the animal in the state of an arseniate before he was destroyed.

It might have been desirable to have ascertained the precise porportion of the hydrate necessary to neutralize the poison; but it would have been very difficult to have arrived at any satisfactory conclusion on this point. M. Bunzen gives from two to four drachms of the antidote to destroy the deleterious action of eight or ten grains of white arsenic. MM. Miquel and Soubeiran use only twelve times as much of the antidote as of the poison; while MM. Orfila and Le Seur give a greater proportionate quantity of the antidote than either of the other gentlemen. It is, however, demonstrated, that the antidote, which contains in itself nothing injurious, should be given in a dose very much more considerable than that of the poison. I have uniformly given thirty-two times the weight.

From the facts that have been stated, I think that the following conclusions may be drawn :—

1. That poisoning by the arseniate of potash cannot be successfully combatted by the hydrate of the peroxide of iron.

2. That the sulphate of iron, employed for the same purpose, has no greater power.

3. That arsenious acid will not poison a horse in a less dose than about two ounces, and that death happens on the third or fourth day.

4. That the peroxide of iron appears to be, as M. Bunzen has advanced, an antidote for arsenic ; but that it must be employed in a quantity very much greater than that of the poison.

5. That when the poison and antidote are administered at the same time, the power of the former is completely neutralized.

6. That the hydrate of the peroxide of iron will produce favourable results, administered even four hours after the ingestion of the poison.

7. That it has not power to save the horse after the first symptoms of empoisonment are developed.

MILITARY FRACAS.

LIEUT. Edw. Arthur Humphries and Lieut. Richard Prescott, both of the 8th regiment of light cavalry, and veterinary surgeon William Henry Wormsley, have been tried by a court martial at Bangalore for scandalous and infamous behaviour, unbecoming the character of officers and gentlemen, in the artillery billiard-room at Bangalore, on the 13th of December, 1834 ; and in having been engaged in a disgraceful affray, Lieutenants Humphries and Prescott on one side, and Surgeon Wormsley on the other ; during which the latter struck Lieut. Prescott with a billiard cue, and grossly abused Lieut. Humphries, and Lieut. Humphries attempted to throw Surgeon Wormsley out of the window of the billiard-room, and afterwards forcibly held him while Lieut. Prescott inflicted several blows on his back with a rope's end. The court found Surgeon Wormsley not guilty, but Lieut. Prescott and Humphries were both found guilty, and sentenced to be dismissed from the service, which sentence was confirmed.—*Morning Chronicle*, Aug. 21, 1835.

THE VETERINARIAN, SEPTEMBER 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE have complied with the wishes of some of our correspondents, and introduced more good English stuff than usual into our present Number; it is for them, however, to determine how long we shall do so, and they must not blame us on account of that, the remedy of which rests with themselves.

The letter of Nimrod we regard as peculiarly valuable. The fact of the comparative rarity of broken wind and roaring among the French horses is curious and interesting, and to the investigation and elucidation of it we invite our readers. We are also obliged to Mr. C. Clarke. In the infant state of our profession, practical men out of it can often give us very useful information, and we should be candid and wise enough to give their communications all due attention.

We have presented our readers with another Essay of the Assistant Professor of the Royal Veterinary College. It is on a subject on which he is quite at home: it will do him no discredit; and it will be read with interest by the profession at large.

We had heard that Mr. Sewell was about to publish, in his way, an account of a new and successful treatment of splents. Copies were circulating among this gentleman's friends, both in and out of the profession. A friend of ours, before the publication of our last number, favoured us with the loan of one that had been sent to him. We were unwilling to compromise him with the Assistant Professor; but a few days afterwards another was conveyed to us, and we have the offer of a third: as caterers, therefore, for the profession generally, we can, without impropriety, now serve it up for their veterinary nutriment and enjoyment.

But,—and we ask it with no unfriendly voice,—what does the worthy Professor mean by this strange mode of publication? Is he not aware that, in virtue of the office which he has the honour

to fill, every discovery which he makes, every improvement on our art which may suggest itself to his mind, is the property of the profession? Is he not one of the guardians of our weal—a second parent?—and what should we think of that father who initiated only a small, a very small part of his family in manipulations—processes, essential to the proper practice of their common profession—and left the majority of his children to grope their way ignorant and abandoned, while he was abundantly more liberal to distant relations, who neither understood nor properly estimated the value of his instructions? When, in process of time, he occupies that station among us to which his long connexion with the Veterinary College gives him a paramount claim, does he suppose that he will be permitted to confine the full explication of his discoveries to his favourites, his parasites, and medical men? The whole profession will indignantly rise and protest against a system at once unjust and insulting. Another man might do as he will with his own, but the heads of the veterinary art have, in the respect to which we allude, nothing of their own to exercise their caprice about: their talents, their labours, and the result of both united, are the property of their pupils and their profession, and the enjoyment of them should be as free as air.

Some annoying circumstances must occasionally attend this mode of publication. The following story will afford an illustration of this:—A professor of high standing in one of the metropolitan medical schools a few days ago asked the writer of this *leader* to shew him the first clear and somewhat manageable case of rabies which he might have in his hospital, and assist him in performing on the dog Mr. Sewell's experiment on a tetanic horse, viz. to destroy it by the woorara poison, to resuscitate it by artificial respiration, and to see whether, as in the horse, the nervous erythism had been completely got rid of. The veterinarian stared at him with astonishment, and said he was not aware of such an operation having been performed, and thought there must be some mistake about the matter. On the following day he had opportunity to see two long-established town veterinary surgeons, and he asked them about the thing.

They knew nothing about it, and did not believe it. The veterinarian met Mr. ——— again shortly afterwards, and told him he thought that he must have been misinformed.—“Oh, no,” was the reply; “Mr. ——— (another surgeon) and I had it from Mr. Sewell himself, and he gave it to us in print.”

Thus was an operation, the conception of which did Mr. Sewell credit, and the success of which would have immortalized him—a truly glorious operation—in a manner lost to the profession: such, however, must be the result of this unjust, and we must be permitted to say, without meaning offence, indefensible mode of publication. We have succeeded in rescuing two or three of Mr. Sewell’s papers from partial oblivion like this. He has had no cause to complain of it: no illiberal or annoying criticisms were made on these compositions: there was matter for gratification rather than otherwise to the Assistant Professor: and he will be compelled, by and by, to abandon a mode of proceeding in which, we are free to tell him, he neither does justice to his profession nor himself.

The report of the “Recovery in a Case of Hydrophobia” will be read with interest. The question as to the latest period at which the excision of the bitten part may be attempted with any hope of success is a very important one. Practitioners, whether medical or veterinary, are now almost universally agreed that rabies has but one cause, the introduction of a peculiar poison into the system—a poison that remains for awhile unabsorbed—inert—and, often, not until after the lapse of a considerable period, begins to exert its deleterious agency. If at any time previous to the commencement of the morbid nervous excitement which it ultimately produces it is removed, or the tissue on which it lies is destroyed, danger ceases. But, after the constitution is affected, would the practitioner be justified in extirpating the bitten part? Most certainly he would, if the destruction of the part had not been before attempted; and the surgeon should closely question himself, or others if he were not the operator, whether by possibility a minute portion of the virus could have escaped the previous application of the caustic

or the knife. In such a malady, where legitimate hope scarcely comes, no means which offer the slightest shadow of success should be neglected. No great dependence, perhaps, can be placed on such a measure: the nervous irritation is too general and too great for any intensity of inflammation which may be set up in the bitten part to remove or even to alleviate. It is not, however, the valuable, the powerful principle of counter-irritation which alone is here concerned. This is a disease of empoisonment: it is produced by a certain virus, which, either acting upon or absorbed from the tissue on which it lay, has deranged the whole constitution.

How do facts stand here? The writer of this *leader* may, perhaps, be forgiven for speaking in his own person. In the course of a long practice, a great many dogs bitten by others supposed to be rabid have come under his care. Where the wound could be discovered, the caustic was invariably applied with severity proportioned to the nature of the case. Very many dogs, notwithstanding this application of the caustic—whether it failed, or whether, in an animal covered with hair, some other wounds had escaped the most careful search—became rabid and died. Others, suspected to have been bitten, but on whom not a scratch could be discovered, were put under confinement, and a considerable proportion of them became rabid. *It is extremely difficult* to discover a slight wound on an animal thickly covered with hair.

Possessing opportunities for obtaining some knowledge of this disease which in those days fell to the lot of few veterinary practitioners, and urged and determined by circumstances, with which the public have nothing to do, to aim at some slight portion of distinction in one branch, at least, of his profession, he was industrious in his accumulation of facts. He was anxious to detect the earliest symptom of the malady; and the earliest in most of his patients was an eager licking or gnawing of the originally bitten part in the dogs on which he had operated, and of some place, varying in different cases, in those in whom the wound had escaped detection—proving the local origin of the disease; ascertaining the precise period when the previously inert

poison began to exert its fatal power; confirming the propriety of the mode of prevention then resorted to by the thoughtful, and now universally admitted as the only rational one; and giving rise to the inquiry, urged by these gentlemen, whether, even after the time for prophylactics had ceased, after the affection was no longer a strictly local one, "the free excision of the bitten parts ought not to be adopted," as destroying the original focus of mischief—the source whence the fatal nervous erythism now prevailing first sprung, and whence, possibly, its supply of deadly influence was drawn.

The principle of counter-irritation was not forgotten—counter-irritation set up not only in the neighbourhood of the original seat of morbid action, but in the part itself. Much, perhaps, was not hoped from this; and yet, possibly, in some cases, where the balance of power was nearly equal, it might turn the scale.

The knife and the caustic—the knife to prepare the way for the caustic—were in frequent requisition; but long without any satisfactory result. The symptoms of rabies once having developed themselves, the disease would pursue its course in spite of these means of prevention.

At length a case did occur in which the approach of the disease could not be mistaken, and one of the symptoms was evident inflammation of the bitten part: the knife and the caustic were here freely used, and every symptom gradually disappeared, and the patient recovered.

A long time having intervened, a second case of the same kind came under his notice, in which the same measures were adopted, and were attended by the same success. It may be supposed that he was not a little elated at this, and that some few professional day-dreams were indulged in. This renewed excision of the bitten part was no longer justifiable on theory alone; it bore the stamp of practical success—success, the instances of which, indeed, were few and far between, but which it was no longer folly occasionally to expect.

He was, however, reckoning a little too fast. There came another patient. The dog was suspected to have been bitten: it was in a manner certain that he had been bitten; but the

wounded part could not be detected, and he was not operated upon. The disease approached, it established itself. There was the perversion of temper; the suspicious scowl; the eager watching of imaginary objects; the darting at some phantom of the imagination; the depraved appetite, and the characteristic howl. The malady pursued its regular course during more than four and twenty hours, and then came a gradual calm;—the dog quieted down to his usual appearance and habits—he became well!

Then what became of the pleasing theory in which the veterinary surgeon had indulged? It also disappeared, yet not leaving “no reek behind”—leaving at first a somewhat confused mass of speculation and doubt, but which gradually formed itself into a still more satisfactory object of contemplation. Another, and another case succeeded. Once, in a hundred times or more, the constitutional affection admitted not of a doubt; every characteristic symptom assumed its proper situation in the line of march, and the whole was apparently hastening to its usual fatal termination: but presently there was a pause—the symptoms remitted; they one after the other disappeared; and the patient was himself again.

What was the probable conclusion from this—if a conclusion was yet justifiable? That a minute portion only of the virus having been originally deposited in the wound, or being roused to action before it had assimilated to itself sufficient other matter; or the part on which it lay, or the constitution generally, not being disposed to be acted upon by it, an imperfect disease alone was set up, and ran its course without affecting life. When the absorption of the virus commences, is it rapidly completed? or may not the slowness of the process be traced in the gradual development of the different symptoms? With the suspected dog under his frequent observation, the veterinary surgeon is usually aware of the approach of the disease a day or two before its unequivocal symptoms are manifested. Either a greater supply of morbid influence is necessary to the completion of the case, or it is only slowly that the system yields to the power of the virus.

It is surely justifiable to operate again upon the bitten parts—it is not only justifiable, but it is a point of duty that should not be neglected. *The disease does occasionally spontaneously yield.* The most probable explanation of this is, that the virus is exhausted. Let, then, the chance be taken of artificially exhausting it—of removing that tissue on which a portion of it may still remain not yet matured or prepared for action. Before the full development of the malady—before the full constitutional affection, this would not only be justifiable, but praiseworthy.

That is a strong case referred to by Dr. Bardsley, “the wound was excised thirty-one days after the bite, and after the hydrophobic symptoms had appeared, *and the man’s life was saved.*”

It is related in the Medico-Chirurgical Transactions of Altenburg (Sept. 1821), that a man was bitten by a rabid wolf. The part was excised, and he appeared for awhile to be doing well; but, all at once, symptoms of hydrophobia came on, and were too plain to be mistaken. The wound which had been kept open was examined, and some fungous granulations seemed to be sprouting from its bottom. The caustic was applied; they were removed; the nervous irritability subsided; and the patient did well.

Trolliet says that several persons were bitten by a rabid wolf, and some of them died. The cicatrix in the arm of one man became inflamed, and gave him much pain. The caustic was freely applied, and no hydrophobic symptoms appeared.

In May 1827, a bolder experiment was made at Guy’s Hospital. The patient had been bitten severely in the hand seven weeks before. No application of caustic or knife was made, and the parts were healed. Rabies had ensued, and the patient “laboured under the disease to its full extent. The disease had been developed thirty hours; the hydrophobia existed in the highest degree, and the frame was agitated with the most dreadful spasms.” They who advised, in such a case, amputation of the arm, were little or not at all deserving of censure, although the operation seemed to increase the duration and the violence of the spasms, *for the case was otherwise desperate*: but the surgeon, who in the very early stage of the disease, and during the premonitory symptoms, if they may be so called, proposes and effects

amputation or deep excision of the bitten part, may encourage some hope—we can scarcely yet dare to calculate how much or how little—and he will assuredly deserve well of his profession.

Thus far as to the propriety of the operation in an undoubted case of rabies. But how does it bear on this case? Why, in a state of great excitation from some nervous lesion, the destruction of the injured portion of the nerve will be often found to be in the highest degree beneficial. It was so here. The patient began to recover as soon as the parts were freely cut away. *But there was no rabies in the case.* The dog was not rabid, and could not communicate a disease which he had not himself.

The usual duration of rabies in the dog is from four to six days: it rarely, indeed, reaches the seventh day, and it is often fatal on the third. This dog became sickly about the middle of June. It bites its mistress on the 22d—a week afterwards. It remains at large two or three days after that, and at the expiration of the second week it was *killed*: “the throat and salivary glands having become enlarged, the flow of saliva much increased, and the eyes slightly inflamed.”

The salivary glands of the mouth are generally somewhat enlarged, and especially in the *early* stage of rabies: this enlargement, in a few cases and in a very slight degree, spreads to the parotid glands, so that they may be felt, but rarely seen to be enlarged. The flow of saliva is profuse at some time in the early or middle stage of the disease, but it lasts not long, rarely twenty-four hours, and is succeeded by a strange dryness of the mouth and fauces, and a thirst which nothing can quench: and, before the 6th or 7th day, to say nothing of the 14th, the inflammation of the eyes, if pure inflammation ever did exist, has passed away, and there remains only the green-bottle opacity, characteristic of this disease. The dog probably had distemper, in some stages of which these patients are little less irritable than under the influence of rabies: and the woman, as these gentlemen acknowledge, was in a high state of nervous excitation, and nothing more.

No offence can possibly be meant to these gentlemen; but is there no veterinary surgeon in the neighbourhood of Kel-

vedon? or is the veterinary profession in a state of utter degradation there? Do medical men act courteously, honestly, when, in cases like these, they take to themselves a part of the affair which does not belong to them, and to which they are not competent? Do they consult their own reputation? Do they act honourably by their patients? Cases continually occur in which the veterinarian of many a year's practice is unable at once to decide whether the animal submitted to his inspection is rabid, and he craves time. There is scarcely a veterinary surgeon who does not look back with regret on cases in which he needlessly excited the most agonizing fears, or suffered a human being to remain in a state of dangerous fancied security. Is, then, the human surgeon, who has not, perhaps, seen a dozen cases of rabies, or half so many, in his whole life, competent to decide? or is he acting rightly, conscientiously, when he pretends to decide?

This part of the subject will be resumed at another, and, perhaps, not very distant period; for it is not in this respect alone that the human surgeon trenches on the rights of the veterinarian, and in a manner which he would himself repel with no slight degree of indignation. How many a strange and ludicrous and absurd horse and dog-doctoring story can we tell! and some calculations we could make of the sum netted per annum by certain apothecaries, who should not take so much from our scanty remuneration and livelihood.

The Essay on the Physiology of the Eye of the Horse, by Mr. Molyneux, we insert with pleasure; not because there is any thing particularly novel in it, but from its being a part of the thesis which he defended in the London Veterinary Medical Society when he was a candidate for its honours. It is generally correct—some parts of it are very well written, and Mr. M—— is evidently disposed to think for himself.

We insert it, because it is pleasing to the old stagers to know what the young ones now think and say on the questions which we once discussed on the same arena; and because it enables us to judge of the state of our school and our art, and to calculate upon the future stars and ornaments of our profession. There are few who distinguish themselves in after-life who do not give

some satisfactory indication of talent in their youth—coming events here cast their shadows far and distinctly before them.

It would be most gratifying to us if we were favoured with a continued series of these papers. They would not occupy any very great space in our journal ; while to the young aspirant and to his friends they would be highly gratifying ; the staid practitioner would sometimes in imagination fight his battles over again ; and, if we may judge from the few samples we have had, we should occasionally derive not a little information.

The report of M. Bouley on the efficacy of the hydrate of the peroxide of iron as an antidote against arsenic, does him the highest credit. The labour which he endured, and the expense with which he burdened himself, must have been very great ; and the inquiry is throughout conducted with skill and caution, and in the spirit of true philosophy. M. Bouley is an unpretending writer ; but we know not one among the French veterinarians who is more deserving of praise and esteem.

We went two or three days ago into the shop of one of our leading manufacturing chemists, in order to make some inquiries respecting this hydrate. They had not a particle of it ; not a soul had asked for it or about it ; and they could not tell any thing about the price, except that it would not be cheap. Surely this is not creditable either to the human surgeon or to the veterinarian.

The “military fracas” we insert with some reluctance and pain. We find our brother practitioner where every cavalry vet. should be,—associating with his officers ; we find him acquitted of the charge of ungentlemanly conduct ; but we see him previously exposed to shameful indignities. We will not at present venture to hazard an opinion respecting the whole of the transaction, but we will most diligently endeavour to become possessed of the real facts. On the conduct of our cavalry veterinary surgeons, and the estimation in which they are held, depends, more than on almost any thing else, our general respectability and acceptance.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Traite de l'Age du CHEVAL, par feu N. F. GIRARD, &c.

[Continued from p. 476].

FOR the use of those of our readers who may possess the first edition of this excellent and generally accurate work, we translate the recapitulation of the signs of the dog's age, as dependent on the teeth, given by M. Girard, sen.

“Dogs are born with their eyes closed, which they open from the tenth to the fifteenth day after their birth. They usually have all their milk teeth, or, in case of the contrary, these protrude through the gums in a very short time afterwards. From two to four months the central, and often the next pair of the incisor teeth, fall. In a varying space, according to the kind of dog, and between the fifth and eighth month, the animal has all his adult teeth, and his mouth is full.

At one-year old the teeth have all a peculiarly fresh and white appearance; the incisors, and the canine teeth or tushes, are especially neat and perfect; the membrane of the mouth is of a rose-colour; the muzzle is sharp.

At fifteen months the inferior central incisors begin to be worn, but the mouth has all its freshness; the tushes and the incisors are perfectly white.

From eighteen months to two years the wearing of the inferior central incisors is complete, and the next pair begin to be changed.

From two to three years and a half the fleur-de-lys of the second pair of incisors is effaced; the superior incisors begin to be worn; the mouth has lost much of its freshness; there is a sensible alteration in the incisors, and the tushes begin to be rounded and to have a tarnished appearance.

From three and a half to four years the wearing of the central incisor teeth of the upper jaw is complete; the teeth become of a dirty-white colour, and, perhaps, the tushes are beginning to be yellow.

From four to five years the wearing of the second pair of incisors in the upper jaw is complete. At this period also, great dogs, who have many bones to gnaw, have all the incisors rounded, and more or less altered.

After five years, an inspection of the teeth furnish exceedingly vague indications of the age, and so variable, that it would be presumptuous to speak with any degree of positivity. The only means of judging of the age, when it does not much exceed five

years, is by inspection of the tushes and the superior corner incisors. At six years old, if not before, the canine teeth and the corner superior incisors begin to be yellow, and rounded, and worn at every point. This yellow colour, which is seen first at the base of the tooth, is apparent in some dogs at four years old. Commonly it does not appear until the dog is five years old, and is not decidedly established until he is six. At this latter period the little supernumerary molars are dirty, black, and worn, and frequently wanting. Some months later, the canine teeth are shortened, and rounded, and worn down in every possible direction. These alterations, while they increase, become more and more complicated ; but they do not follow each other in regular order, and they enable us only to approximate to the age of the dog.

To these observations respecting the teeth we may add, that old dogs become grey around the muzzle, the eyes, and the forehead ; they become, contrary to other animals, thicker about the muzzle. At eight years old the points of the hocks lose their hair, and become covered with callosities ; the ends of the toes thicken and become rounded ; the nails, hollow and flat, lengthen, and form a semicircle ; the surface of the back is denuded of hair ; the skin at parts becomes scaly, or rather it is covered by a sort of mange—a red mange—exceedingly obstinate, or almost incurable, and which, in the great majority of cases, more and more annoys the animal, whatever supposed remedy we may employ.

Miscellanea.

DIPLOMAS OBTAINED AT THE ROYAL VETERINARY COLLEGE, AUGUST 18th :—

Mr. J. V. Gibson, of Manchester,
 Mr. A. Packwood, of Coventry,
 Mr. J. B. Lowth, of Oakham,
 Mr. C. H. Wadlow, of London.

THE DESERT HORSEMAN.

AFAR in the desert I love to ride,
 With the silent bush-boy alone by my side ;
 When the sorrows of life the soul o'ercrest,
 And, sick of the present, I turn to the past ;
 And the eye is suffused with regretful tears,
 From the fond recollections of former years ;
 And the shadows of things that have long since fled
 Flit over the brain like the ghosts of the dead—
 Bright visions of glory, that vanished too soon,—
 Day-dreams that departed ere manhood's noon,—

Attachments by fate or by falsehood reft,—
 Companions of early days lost or left,
 And my NATIVE LAND ! whose magical name
 Thrills to my heart like electric flame ;
 The home of my childhood, the haunts of my prime ;
 All the passions and scenes of that rapturous time,
 When the feelings were young and the world was new,
 Like the fresh flowers of Paradise opening to view !—
 All—all now forsaken, forgotten or gone,
 And I, a lone exile, remembered of none—
 My high aims abandon'd, and good acts undone—
 Aweary of all that is under the sun—
 With that sadness of heart which no stranger may scan,
 I fly to the desert afar from man.

Afar in the desert I love to ride,
 With the silent bush-boy alone by my side ;
 When the wild turmoil of this wearisome life,
 With its scenes of oppression, corruption and strife ;
 The proud man's frown, and the base man's fear,
 And the scorner's laugh, and the sufferer's tear ;
 And malice and meanness, and falsehood and folly,
 Dispose me to musing and dark melancholy ;
 When my bosom is full and my thoughts are high,
 And my soul is sick with the bondsman's sigh—
 Oh then there is freedom, and joy, and pride,
 Afar in the desert alone to ride !
 There's rapture to vault on the champing steed,
 And to bound away with the eagle's speed,
 With the death-fraught firelock in my hand
 (The only law of the desert land) ;
 But 'tis not the innocent to destroy,
 For I hate the savage huntsman's joy.

Afar in the desert I love to ride,
 With the silent bush-boy alone by my side :
 O'er the brown Karroo, where the bleating cry
 Of the springbok's fawn sounds plaintively ;
 Where the zebra wantonly tosses his mane,
 In fields seldom freshened by moisture or rain ;
 And the stately hoodoo exultingly bounds
 Undisturbed by the bay of the huntsman's hounds ;
 And the timorous quagha's wild whistling neigh
 Is heard by the brok-fountain far away ;
 And the fleet-footed ostrich over the waste
 Speeds like a horseman who travels in haste ;
 And the vulture in circles wheels high over-head,
 Greedy to scent and to gorge on the dead ;
 And the gristly wolf, and the shrieking jackal,
 Howl for their prey at the evening fall ;
 And the fiend-like laugh of hyænas grim
 Fearfully startles the twilight dim.

Afar in the desert I love to ride,
 With the silent bush-boy alone by my side :
 Away—away in the wilderness vast,
 Where the white man's foot hath never past,
 And the quiver'd Koranna or Bechuan
 Hath rarely crossed with his roving clan :

A region of emptiness, howling and drear,
 Which man hath abandoned from famine and fear;
 Which the snake and the lizard inhabit alone,
 And the bat flitting forth from his old hollow stone:
 Where grass, nor herb, nor shrub takes root,
 Save poisonous thorns that pierce the foot;
 And the bitter melon for food and drink,
 Is the pilgrim's fare by the salt lake's brink;
 A region of drought, where no river glides,
 Nor rippling brook with osiered sides;
 Nor reedy pool, nor massy fountain,
 Nor shady tree, nor cloud capped mountain,
 Are found to refresh the aching eye:
 But the barren earth, and the burning sky,
 And the blank horizon round and round,
 Without a living sight or sound,
 Tell to the heart in its pensive mood,
 That this is—NATURE'S SOLITUDE!

And here,—while the night winds round me sigh,
 And the stars burn bright in the midnight sky,
 As I sit apart by the cavern'd stone,
 Like Elijah at Horeb's cave alone,
 And feel as the moth in the Mighty Hand
 That spread the heavens and heaved the land,—
 A "still small voice" comes thro' the wild
 (Like a father consoling his fretful child),
 Which banishes bitterness, wrath, and fear—
 Saying "MAN IS DISTANT BUT GOD IS NEAR!"

PRINGLE.

LOVE OF ANIMALS FOR THEIR YOUNG.

"The poor wren
 The most diminutive of birds, will fight—
 Her young ones in the nest—against the owl."

I HAVE always great pleasure in seeing the affection which animals have for their offspring, and which often shews itself in an extraordinary and incongruous manner. A hen who has hatched young ducks will follow them, at the hazard of her life, into the water,—and will even sacrifice herself to preserve her chickens. A fox, or rather a vixen, has been known to carry one of her cubs in her mouth when she has been pursued by the hounds; and whoever has seen a dog break into a covey of young partridges, will have one of the strongest proofs that I know of the force of natural affection. An instance of parental attachment in a bird was recently related to me, which gave me much pleasure. A gentleman in my neighbourhood had directed one of his waggons to be packed with sundry hampers and boxes, intending to send it to Worthing, where he was going himself. For some reason his going was delayed; and he therefore directed the waggon should be placed in a shed in his yard, packed as it was, until it should be convenient to him to send it off. While it was in the shed, a pair of robins built their nest among some

straw in the waggon, and had hatched their young just before it was sent away. One of the old birds, instead of being frightened away by the motion of the waggon, only left its nest, from time to time, for the purpose of flying to the nearest hedge for food for its young; thus alternately affording warmth and nourishment to them, it arrived at Worthing. The affection of this bird having been observed by the waggoner, he took care in unloading, not to disturb the robins' nest; and my readers will, I am sure, be glad to hear, that the robin and its young ones returned in safety to Walton Heath, being the place from whence they had set out. Whether it was the male or female robin which kept with the waggon, I have been unable to ascertain; but most probably the latter, as what will not a mother's love, and a mother's tenderness, induce her to perform? The distance which the waggon went, in going and returning, could not have been less than one hundred miles.

Fishing the other day in Hampton Court Park, I disturbed a moor-hen, who had just hatched; and I watched her anxiety and manœuvres to draw away her young. She would go to a short distance, utter a cry, return, and seem to lead the way for her young to follow. Having driven her away, that I might have a better opportunity of watching her brood, she never ceased calling them, and they made towards her, skulking amongst the rushes until they got to the other side of the pond. They had only just left the shell, and probably never heard the cry of their mother before.

If you go near the nest of a lapwing, one of the old birds will fly close to you, and try to draw you from their nest. I have seen my dog almost struck by one of the birds as she flew past him: they seem quite to forget their own danger in their endeavours to preserve their offspring. It is said, that when a hind hears the hounds she will allow herself to be hunted, in order to lead them off from her fawns. Every one knows how bold a hen is in defence of her chickens. The following instance of affection in a bitch for her young was communicated to me by a friend of mine, an officer in the 15th hussars. He had a favourite bull-bitch who had puppies, and thinking, as they grew older, that they were making her thin and weak, he took them from her, and shut them up in a sort of coop, in a yard, to which he thought she could not have access. She was seen, however, getting over the wall of the yard; and, finding that her puppies could not get at her to suck her, she emptied the contents of her stomach into the place where her young were confined, and continued to do this two or three times a-day for some time. She had no difficulty in procuring as much food as she wanted, and conveyed it to her puppies in the manner mentioned.

Jesse's Gleanings in Natural History, vol. i, p. 99.

THE VETERINARIAN.

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A CASE OF OSSIFICATION OF THE AORTA, WITH REMARKS ON OSSIFIC DEPOSITS IN GENERAL.

By Mr. T. W. MEYER, Jun., Newcastle.

MY attention having lately been directed (by a rare instance of ossification of the aorta in the horse) to the consideration of ossific deposits, I send the case with some few remarks for your insertion in *THE VETERINARIAN*, if you think it worthy of a place there. It is my desire also to render a little of my feeble support to your valuable journal. But I do not wish to do this by contributing papers, which, masked under anonymous names, attack with virulence and malignity this or that individual, or expose what they are pleased to consider the faults of this or that institution. I would rather contribute that which will enlarge our views on the anatomy, physiology, and pathology of our domesticated animals, and add to the honour and respectability of our profession.

Having said thus much by way of preface, I beg leave to draw your attention, first, to ossific deposits in general; and secondly, to the peculiar case in question.

First—Ossific deposits in general:—

By ossific deposit we mean a production of ossific matter produced by a determined action of the arteries, and which becomes or nearly approaches to bone. These deposits are of two kinds, natural and unnatural—natural, when deposited where nature intended they should be placed. This is illustrated in the formation of the bones of a foetus, where they are first cartilage; and as the animal becomes older, bone gradually takes its place: this is a natural deposition. Unnatural, when deposited in parts or organs which were not intended to be bone; for instance, in the lungs, liver, and, in the peculiar case about to be mentioned, in the aorta. Splents, ossified cartilages, &c. are also instances of unnatural deposition. In these cases there is a deposition of ossific matter where it was not intended that there should be any; consequently it is unnatural.

It is to these unnatural ossific deposits and that are connected with disease, that I now wish to call your attention. Ossification, whether on external or internal parts, appears to be commenced, carried on, and perfected, by the same process. Let us consider, as briefly as possible, what this process is. The first step which nature takes, is in causing the arteries to pour out a sort of jelly. Into the centre of this, an artery is soon seen running; other arteries appear, and form a net-work around and in it. These vessels are at first transparent; but they soon begin to dilate, and, whenever the red-coloured blood begins to appear, then ossification quickly succeeds, the arteries being so far enlarged as to carry the coarser parts of the blood. A centre of ossification now begins to appear in this jelly; other points are successively formed: complete ossification follows, and buries and hides those vessels by which it was formed.

It is also to be observed, that this process is quickly perfected, and that it goes on without inflammation being present; for we have heard of ossification of the lungs and liver to a considerable extent without its being suspected, during life, that any thing was wrong with those parts.

But it appears that ossification is often consequent upon inflammation, as, in the example of splents. We often have horses brought to us with swelling and inflammation where a splent occurs, which feels as if it contained coagulable lymph; by and by it becomes harder, and at last bone.

Having, therefore, shewn that the formation of bone, natural or unnatural, external or internal, is brought about by the same process, and believing that it may take place with or without any previous inflammation, I proceed, in the second place, to give some particulars relative to the case in question.

In the month of May last a horse of our own, which we had driven in harness many years, was destroyed, on account of being lame from the navicular disease. He had not been a healthy horse for some time: after a day's journey, he was quite done up, affected with loss of appetite and weakness in his loins, which would occasion him to drop; and sometimes there was difficulty in retaining his urine: he had been turned out to grass for twelve months, but had not got into condition by it.

On a post-mortem examination, I found a mass of scirrhus deposit attached to the aorta, and the coats of that vessel *completely ossified* for several inches, just where the renal arteries are given off. The coats of the renal arteries were much thickened, and their elasticity quite destroyed; and both the lungs and liver had small spiculæ of bone in their substance. This extraordinary process must have been going on for some time, yet its existence was not suspected.

Such, gentlemen, is a short sketch of the case in question; curious, as shewing a predisposition in the blood to form bony matter, happily rare. Although not generally interfering with the usefulness of the animal in this case, it certainly did exhibit in an eminent degree the power vested in the animal frame by an over-ruling Providence to secure the regeneration and reproduction of bony parts.

THE PREVENTION OF ABORTION IN CATTLE.

SIR,—I find that a very curious, and to you, I dare say, a novel operation, is performed here by an old man upon the cows which have been *isened*, to prevent them again coming in season, or casting calf in winter. The practitioner knows nothing upon the subject, but he had learned it from his grandfather. As he is successful, and I was present when he operated upon several of my cows, I shall describe what I saw and was told, in order that you may give me an anatomical account of the matter, and the reasons why the expected results have been obtained.

A few days after taking the bull, the cow was held by the horns and tail, and he thrust his forefinger as far as he could reach up her *box*, when, he says, a small vein, larger in heifers than cows, may be felt; and this, by pressure and twisting the finger about rather forcibly, he broke within, a few drops of blood generally issuing after the operation. He can give no distinct account of what he does, or where the vein or muscle lies; but I generally saw him search with his finger low down, and twist it upwards to break it, and when it slipped away from him he again felt for it below. I wish you could discover the nature of the operation, and describe it correctly; for I can safely say, that in a breeding fold of fifty Highland cows which lie out at all seasons, and among which as many as twenty (seldom less than three or four) cast calf annually, I have not had above one or two miscarriages any year since this operation has been performed. It is therefore a subject of the utmost importance to the breeder; and I shall feel obliged by receiving from you a scientific explanation of the matter.

Your's faithfully.

18th June, 1835.

The preceding letter was addressed to Mr. Dick from the north of Scotland, by one who takes a lively interest in the welfare of the country in which he resides; and who, as it will be seen, while he does not hesitate to adopt what appears to be useful, is

at the same time anxious to know that the operation is founded upon proper and scientific principles. To the scientific veterinarian, however, it must at once be obvious, that this operation is a piece of absurd quackery; not so, however, to the gentleman or the farmer, who has not studied anatomy and physiology. To him the loss of the animal is a matter of importance, and every thing that seems likely to prevent or cure disease is gladly tried.

In this case an operation is recommended; it is backed by apparent success in other cases; and when he tries it, there is every appearance of success: but it will not bear the test of investigation, for there is nothing in the anatomy of the parts that will admit of an operation that could prove useful. Nothing short of such a destructive laceration of parts as would be followed by a permanent contraction would have the desired effect; and in thus mangling her, there is scarcely a doubt that the very effect would certainly be produced which the operation was intended to prevent. The operation which the quack alluded to performs, appears to be a laceration of the orifice of the urethra; and if intended to obstruct the passage of the urine, might have that effect, by the inflammation which would follow; but to suppose that by such an operation abortion could be prevented, is really out of the question. D.

CARDITIS.

By Mr. SMALL, Glasgow.

HAVING seen in the last number of your most useful periodical an account of a case of spasm of the diaphragm by an old friend and fellow pupil, I take the liberty of sending you a history of two cases of inflammation of the heart, as transcribed from my note book, the symptoms of which are very analagous to those related by Mr. Tombs.

CASE I.

March 3d, 1831.—A black horse, aged, but in high condition, the property of Mr. Menzies, of Friartown, near Perth, was taken ill while at work in the plough. The first symptom of illness which the ploughman observed was a reluctance to proceed; and, when allowed to stop, he would cringe together, or draw his hind legs up under his body, as if griped or suffering pain internally.

On my arrival I found the horse standing and sweating profusely; the nasal membranes and conjunctiva very much reddened;

pulse 74, and almost imperceptible at the jaw, and the respiration accelerated in proportion. The palpitation of the heart was most violent, and so loud as to resemble nothing so much as the beating of a hammer on the ribs, and it might be heard outside the stable door: the eyes had a peculiar glassy appearance, and the horse seemed insensible to every thing around him. V. S. xiv ℥.; aloes cap. ʒvj in solution. The horse removed to a loose house; both sides of the chest well rubbed with strong blister ointment after the hair had been closely clipped. He was back-raked, and a saline clyster administered; fresh hood and cover were applied, and other means used to promote a continuance of the perspiration.

4th.—Bowels have been opened; palpitation and other symptoms unabated; great thirst. V. S. x ℥.; R ver. rad. ʒiij, nit. et sup. tart. pot. ā ā ʒij, molasses q. s.; divide this into six balls, and give one every four hours. Blister renewed on the chest. Patient thoroughly rubbed and dressed, and fresh clothing applied; to have plenty of thin gruel to drink, and be kept as quiet as possible.

5th.—Much worse; pulse 86, small and wiry, and intermittent: the beating of the heart, though not so violent or loud, evidently betokens an approaching dissolution; the extremities are cold, the ears hang down, and the body, in parts, is covered with a cold and clammy sweat. The patient, with his head in one corner of the loose house, stands quiet and motionless; but when urged to move would run against the wall as if blind, and appears quite unconscious of every thing around him. His urine is high-coloured, and he stales frequently, and in large quantities. Sub. mur. hyd. ʒij in bolus, prescribed by Mr. C. Small, and to be repeated every four hours until the mouth is affected. Sides fomented for an hour with very hot water, and blister again applied; stimulating embrocation to the legs, and bandage.

6th.—A man arrived to let us know that the horse died before eleven o'clock this morning. He stood till within five minutes of his death, and the palpitation of the heart was loud and distinct to the last.

Sectio cadaveris.—Immediately under the skin, on both sides of the chest, a large quantity of a yellow serous fluid was interspersed through the cellular membrane—the effect of the blister. On carefully laying open the thorax, the cavity presented a general healthy appearance; but on removing the lungs and heart, the latter we found to be highly inflamed, particularly the right side, which was much enlarged, and so tender as to be easily torn with the finger. A lymphous or yellow gelatinous substance adhered to the heart on the outside of its base. The

pericardium was slightly inflamed, and a portion of the pleura on the left side. The lungs and the contents of the abdomen presented no unnatural appearance. The brain, Mr. C. Small imagined, was rather softer than usual.

CASE II.

June 22d, 1835.—A brown mare, aged, with a foal at her foot, the property of Captain McKillop, was sent to Cogry, near Doah, to be covered: she had been let out in a field all night, and was observed to be ill in the morning; when brought into the house, she appeared to be griped; frequently lay down, but never attempted to roll. In the course of the day she became frantic, and knocked herself about in such a way as to render it necessary to remove the foal for its safety. Dr. Hawthorn, of the Doah Dispensary, a veterinary amateur, and no mean judge of horseflesh, saw the mare soon after she was attacked; and though above ten miles from a veterinary surgeon, he, in a manner becoming a member of the brother profession and a gentleman, declined administering any medicine, or otherwise interfering with the veterinarian's duty, and sent off for me immediately. When I arrived, I found the mare in pretty much the same state as I did the subject of the first case,—sweating profusely, palpitation of the heart equally as violent and loud, pulse 70 and hard. There was a peculiar twitching of the muscles of the face and neck: she frequently walked round the box in a listless manner, and would push down any thing in her way: the eye, betokening anxiety and distress, was often and wofully cast around to the affected side, on which she sometimes rested her muzzle. What shameful apathy would they evince, who can behold such symptoms as these without attempting to give the sufferer relief, and yet with how little hope of success!—but

“So long as life its term extends,
Hope's bless'd dominion never ends.”

The indication in this case was evidently to bleed, and that largely; I accordingly opened both jugular veins at once, and caused the blood to flow till the patient staggered from its loss. After pinning up the orifices, I administered a bottle of castor oil, with no small difficulty, and a saline clyster; she was then well rubbed down, and fresh litter thickly strewed in the box.

Nine, P.M.—The beating of the heart is less violent; pulse softer, but weak: the patient is more tranquil, and appears in every way better. V. S. vi lb., R pulv. digitalis ʒvj, tart. ant. ʒiiss, nit. pot. ʒij, molasses q. s. divide into six balls, and give one every four hours. She was ordered to be disturbed

as little as possible during the night, and to have plenty of barley water or gruel to drink.

23d.—The mare is a great deal better; pulse 60; palpitation not so loud; bowels relaxed; twitching of the muscles of the head and neck entirely gone, but the parotid gland of the near side is considerably enlarged, and there is a constant discharge of froth or saliva from the mouth. Medicine discontinued till night; legs hand-rubbed and bandaged; fresh clothing applied; and the foal suffered to remain with the mare during the day. Never was the joy of an affectionate parent more full on recovering a long lost child, than was that of our patient when the foal was restored to her: ill as she was, she seemed animated with fresh courage, and strained every nerve to protect it, and prevent another separation.

24th.—The action of the heart is more tranquil, and cannot be heard at all, though very distinctly felt on placing the hand on any part of the body; pulse 54. The salivary discharge has ceased, and the mare has eaten a little bran mash during the night, and drunk a considerable quantity of gruel: extremities warm and comfortable, and no other unfavourable symptom presents itself. Medicine discontinued. I ordered her to have cut grass and bran mash diet for a week, after which time she went home convalescent.

Remarks.—In both these cases the palpitation, or loud and violent action of the heart, together with the delirium or stupor, were the most prominent symptoms of the complaint; the latter, no doubt, the effect of the sympathy of the brain with the heart. The success of the latter case depended, I believe, on the copious evacuation of blood, which was not sufficiently pushed in the first case; and on the speedy action of the sedative medicine, the digitalis, which I have found from experience never acts so well as when an aperient has been given, together with a copious abstraction of blood.

TORSION.

By Mr. W. RICHARDSON, Royal Veterinary College.

THE introducer of a new method of performing an operation has much to contend against, and many to combat with. Few only will be inclined to adopt it at first, and the many will rather declaim against it, and denounce it as being impracticable, than put it fairly to the test. Nor is this at all surprising, since strong prejudices are to be overcome; the olden way is to be forsaken,

and from off the tablet of the memory must be wiped many fond records, by time and observation copied thereon, ere the new becomes the generally adopted plan. All this is hard to be effected; for we cannot change our habits so easily as we can our garments; and the mind once directed into any channel, never leaves it but with reluctance. The hand, too, by experience acquires a certain tact; and hence it is that many, without any anatomical knowledge, become expert operators in certain branches of chirurgery. But although a surgical operation may be looked upon as a mechanical act, it is science that should guide the hand, or the operator becomes a mere pretender. What wonder, then, that but few will leave the good old way to try the new?

I have anxiously, but with disappointment, waited to see if any of your contributors had adopted the plan of castrating by torsion, as advocated by Mr. Molyneux in your April number. To him, in common with yourself, I beg to offer my thanks for having made known the manner in which it should be performed, as well as the success which attended the act; and I would that all who have the opportunity would give it a fair trial. I am ready to confess that I was amongst the number of those who entertained doubts respecting the efficacy of torsion in the horse; but now I do not hesitate to express my firm conviction that this will be the only method, in after-days, resorted to by veterinarians for the removal of the testes of domesticated animals.

Proceeding cautiously, I first essayed on an ass; and the results exceeding my most sanguine expectations, I, with boldness, proceeded to castrate three colts: nor had I any reason to repent of my temerity; for I may say, I never saw colts do so well as they did afterwards.

This was in the month of June; and, being at grass, they were in the morning taken into the crewyard and kept without food till the afternoon; when, in the presence of several friends, the testicles were taken away, the bleeding vessels stopped by torsion, and the animals immediately allowed to go at large again in the fields. I, of course, carefully watched them; but not the least unfavourable symptom presented itself: and so confident am I respecting this method of performing the operation, that it is my full determination hereafter to adopt it. As it regards the manner of operating, I have nothing to add to what Mr. Molyneux has so clearly laid down, for I carefully followed his directions.

Now, as facts have not been inaptly compared to the stones of the Temple of Science, and theory the cement by which they are joined together, I have been induced to send you this case, hoping that I shall stimulate others to follow my example, so that together we may perfect the fair edifice.

ON THE TREATMENT OF FOOT-ROT IN CATTLE.

By Mr. M. POTTIE, Yoker, near Glasgow.

IT has been ordained, for wise purposes, that we should have a tendency to consider things which are similar in some respects as similar in all; and, although we have long known that this principle is apt to produce error, there are still very few, perhaps none, who can constantly remember, and act as if they remembered, that two things may be exceedingly alike in one or two relations, and yet altogether different in others.

We are called to treat a few cases of foot-rot in cattle, and there are heat, pain on pressure, swelling, and lameness. The treatment which we adopt with so much advantage, when similar symptoms appear in the foot of the horse, is immediately adopted here, and an analogous result is expected; but we are surprised and disappointed to find it quite different. After many experiments, but which were never regarded as experiments, it becomes apparent that the disease is not of the same nature as that which produces the same symptoms in the horse. Poultices, fomentations, cooling lotions, and bleeding, whether local or general, if not positively injurious, have not the slightest curative power over foul in the foot. Each has been tried, alone and in combination, and not once or twice, but often. Purgatives and cold lotions, when operating together, retard the disease, but do not cure.

The readers of *THE VETERINARIAN* are aware that the inflammatory symptoms which characterize foot-rot in the ox exist for several days; that, at the end of from two to eight or nine days, an abscess appears and bursts, either at the side of the foot or between the toes; that the effects of the first attack are not gone when another takes place; and that this is followed by another and another, until the foot becomes completely disorganized, and the patient reduced to a skeleton. By this time the toes are thrown far apart, the bones are carious, there are sinuses in all directions, and an immense quantity of matter is discharged. In this state a cow, under bad management, often continues for six or twelve months.

All this, however, if the patient is put under proper treatment from the beginning, may be easily and certainly avoided. All the practitioner has to do, is to produce a slough, of considerable thickness and extent, from between the toes. There are several escharotics that will do this, but some are too strong and some too weak: the former excite an intolerable degree of pain; the latter operate too slowly, requiring several applications, and often not producing mortification until an abscess has formed, when

the use of any caustic is of little service. I find the powdered sulphate of copper answers the purpose better than any agent with which I am acquainted. The foot, in the first place, is well cleaned by washing with hot water and soap; it is dried: a pledget of tow is covered on one side with common tar, and over this is spread a thick layer of the powdered sulphate; the pledget is then introduced between the toes, placed in close contact with the digital commissure, and retained by attaching its ends to a ligature round the pastern. From the moment the escharotic begins to operate, the internal process appears to be arrested; but unless that portion of skin upon which the application is laid sloughs away, the disease will be re-established. In many cases, one dressing is sufficient to produce the sloughing; in others, two or even three dressings may be requisite. When the commissure is soft, yielding, and moist, one application is in general enough; others are necessary when this part is hard and horny, for then the caustic operates upon it with more difficulty. The escharotic loses its power in about forty-eight hours, and it need not be removed sooner. At the end of this time it will be seen whether or not another application is necessary. More than three dressings I have never had occasion to employ. The slough comes away with the first, the second, or the third; and, subsequently, the sore is kept clean and washed once or twice a day with the acetate of zinc, or any other astringent lotion. Nothing more is required. The slough once separated, the lameness disappears, and the animal returns to her food, and yields her usual quantity of milk.

I shall not attempt to explain this unorthodox mode of proceeding. It is of no consequence where or how I was taught to adopt such a plan. I do not announce it as a discovery. Within the last twelve months, however, I cannot have tried it on less than a hundred cases, and it has not failed once. Another practitioner in my neighbourhood can testify that it has been equally efficacious in his hands.

13th September, 1835.

RUPTURE OF THE ILEUM.

By Mr. J. J. ROGERS, London.

MR. Langworthy was sent for, about a month since, to attend a mare belonging to a job-master, in Little Guildford Street, Russell Square, and who informed us that she had not been right for a week or ten days, but this morning she was considerably worse. When we arrived we found it was a lost case: the pulse at the jaw

was quite imperceptible, and patches of cold sweat were breaking out on different parts of the body. She did not then appear in very acute pain, though, in the morning, the owner told us, she had shewn symptoms of gripes. She died in the afternoon of the same day; and when opened the ileum was found ruptured for about the space of a foot, and a great quantity of the fæcal matter was extravasated into the cavity of the abdomen.

CONGENITAL HYDATIDS IN A LAMB.

By Mr. ROBERT REED, Crediton

I SEND you a case of what I consider to be *Congenital Hydatid* in a lamb; and having never seen such an one recorded, it may prove something new in the annals of veterinary science.

In the month of February of the last year, I was called on to return the uterus of a ewe, the property of W. Dicker, Esq. of Haske; which being done, my attention was directed to a lamb, two days old, dropped with a soft tumour on the head, having convulsive twitchings of the legs and head, also a spasmodic twisting of the neck, and utter inability to stand.

On examination I found the tumour the size of a small marble. To my surprise, on pressing it within the skull, all the symptoms instantaneously ceased, and the lamb stood and sucked: when the pressure was removed, by taking away my thumb, they instantly returned with all their former severity. I made use of no remedial means, by my employer's wish, and expressed an anxious desire to have the lamb after its death. On dissection, I found the hydatid cyst, both *internal and external*, to be as large as a small walnut. There was a considerable depression in the substance of the brain; I should say not absorption, but only an indentation, as the covering of the brain under the hydatid cyst was entire, although by its pressure on the bony covering it had caused an opening, by absorption, large enough to admit that portion of the cyst before described. The circular edge of the aperture in the bone was very thin, but it became thicker as it receded at a little distance from the edge. The fluid in the cyst was very pellucid, except in the middle, where the hydatid was observable in the form of a semicircular clouded spot.

During my practice in a large sheep and cattle district, for many years, this is the only instance I ever witnessed.

As to any remarks respecting the origin, I shall offer but few. It is certain the ova (or as some think animalculæ) could not be taken in with the food, but must have reached the brain

through the circulatory system of the ewe: if not derived from that source, they must be produced spontaneously in the brain, kidneys, and liver, those organs being capable, from some unknown cause, of generating them *in se*.

A FEW REMARKS ON A PAMPHLET ENTITLED
 “A CONCISE ACCOUNT OF VETERINARY
 SURGERY,” &c. &c.

By ARCHIBALD WILSON, *Pupil of the Edinburgh Veterinary School.*

Sept. 5, 1835.

[We insert these “remarks” because we felt, and stated in our review of this little work, (see VETERINARIAN for March), that the author had not done justice to the Edinburgh Veterinary School. In a periodical devoted to the improvement and honour of the veterinary profession, our young champion has a right to be heard in such a cause. The Professor can scarcely be expected to enter the lists—his reputation is too well based on the esteem of his pupils, and the rapid progress of the veterinary art in Scotland; but it is pleasing—it is equally honourable to the instructor and the pupil—to see our youthful knight, and with his vizor up, maintaining the character of his school. His antagonist, if he answers to the challenge, must meet him on equal terms.—Y.]

“Some books are lies frae end to end.”—*Burns*.

SOME people write books for mere fun, others for amusement, and others for, perhaps, profit, or, what is perfectly intolerable, to vent their “malignity” on some deserving individual, who gets more patronage and more respect paid to him than they possess, or have any right to expect.

I do not, by any means, find fault with a man for telling or writing what is strictly true, whether his motive may have been bad or otherwise. I do not wish that what is wrong should not be put right, or what can be shewn to be a grievance should not have redress; but I condemn and detest that man who, out of pure or rather *impure* “malignity,” will allow his dishonesty to get the better of him, and say or write what he knows to be false, or what he does not know to be strictly true.

I have been led to make the foregoing remarks, from reading in the above “Concise Account” a history, if it may be called

such, of the “ Edinburgh Veterinary School ;” a “ history,” forsooth ! that veils, with specious and artful cunning, the decided superiority of the “ Edinburgh Veterinary School ” over some of its compeers ; and, with as much effrontery and unblushing impudence, endeavours to impute that which really is not true.

It is not my object to review this “ Concise Account ” (for this would be a performance as useless and uncalled for as the “ Concise Account ” itself), but to make a few remarks as I go along ; and, more particularly, to notice what this nameless author has been pleased to write anent the “ Edinburgh Veterinary School :” and, in doing this, I shall only state what I know to be true, (which this author does not), without scurrility, without “ malignity,” or that *bombasto furiosa*, with which this “ Concise Account ” abounds, but which, perhaps, the author supposed—*was like the style of Dr. Chalmers*.

In page 4 there is a “ concise account ” of what a “ dandified fellow said to a country practitioner,” &c. &c. &c. Could this “ dandified fellow ” be a veterinary surgeon ? if he was, I am left to guess whence he came, or where he was educated. However, we have no “ dandified fellows ” at the Edinburgh Veterinary School ; for, if they enter “ dandies,” dandies they do not remain above two days, for Professor Dick has a cure for them which he is never required to repeat. Some of the unpleasant rubs which we occasionally meet with in practice will quiet down and cure the most dandified fellow, *if he has but a few grains of sense*.

In the same page, this author adds :—“ Veterinary medicine, as a science, is of recent origin,” &c. &c. Here is “ information for the people,” who sit contentedly in profound ignorance—in ignorance of the deep research after knowledge which the author of the “ Concise Account ” is daily making, with unwearied perseverance, to benefit mankind. But who told the author of the “ Concise Account ” that “ veterinary medicine, as a science, is of recent origin ?” Where did he get this information ? Surely such an order of genius as this author must belong to, needed not to have recourse to “ Blaine’s History of the Veterinary College,” where the same information is more clearly given, and, of course, more easily understood.

The author of the “ Concise Account,” whoever he may be, follows a plan in his writings the very reverse of Sir Isaac Newton ; because Sir Isaac told people of what they had never heard, whereas this author repeats what everybody knows and understands, better, perhaps, than he does.

In pages 5, 6, 7, and 8, there is every thing that could have

been wished for : there is prose, such as it is ; and poetry, such as is seldom to be found ; and there is everywhere *nonsense* in abundance. There are long-winded harangues which set criticism at defiance, about “ Charms,” “ Amulets,” and “ Mystic Ceremonies ;” “ Voluntary and Bloody Sacrifices ;” “ Pestilential Calamities,” “ Conscious Guilt,” and “ Divine Vengeance :” there are—

“ Pigs *he* rung, and bells *he* hung,
And horses shod and cured.”

What a very clever, nay, wonderful fellow, the author of the “ Concise Account” must be, when he could do all this ! Surely the “ Admirable Crichton,” if he had been living, would have been seen to be but a mere numscull compared with the author of the “ Concise Account ;” and I verily believe, that, if Dr. Combe could get a cast of his cranium, he would at once perceive that it belonged to no ordinarily-gifted individual.

In page 8, the author of the “ Concise Account” states, that such a number of veterinary institutions are in a flourishing condition, viz.—Copenhagen, Madrid, Vienna, &c. &c. &c. without informing the reader where he got such facts, and whether the truth of such a statement may be relied on. He might have told, that at Copenhagen, Madrid, Vienna, &c. &c. the moon shines by *day*, and the sun by *night* ; but before I could have believed such a queer statement, I would have required some stronger authority than that of the author of the “ Concise Account ;” for if I had believed that the story was quite true, he might have told me next, that at Copenhagen, Madrid, Vienna, &c. &c. there was once a man—a living man, who had been made of the *parings of skimmed-milk cheese* ; and, as a proof of what he said being true, he might have added—“ *and I am that man !*” nobody, I think, who had read his “ Concise Account” would have doubted the fact.

Passing on to page 11, I find that the author of the “ Concise Account” is less furious than he appeared to be when we set out, although the *fit* (of abusing others) has not quite left him ; and from his present appearance—from the irregularity of his pulse, sulkiness of his eye, and *difficulty of swallowing*—I dread a *relapse* ; for “ *the evolution of gas is enormous.*” “ But,” continues this writer, “ from the College have proceeded all our valued authors, and, with few exceptions, our best practitioners.” No doubt this writer looks upon himself, among others, as a very valuable author ; and although his native modesty would not allow him to say so, yet he would rejoice and be glad (as he says of Professor Dick) “ *if others would say so for him.*”

As for the practical abilities which the author of the “ Concise Account” may have in his profession, I have but little to say,

because they may be good, or they may be bad, or neither of the two; but if he bungle as much when operating on a horse, as he does with pen, ink, and paper, I would scarcely allow him to bleed my dog; that is to say, if I could not do it myself.

There is one point more in the same page (11th) in which this author and I most entirely disagree; that is, his unrestrained and never-ending abuse of *smiths and farriers*. It would appear to be the opinion of this paragon of veterinary skill, that no smith, no farrier, knows any thing about a horse; that whenever a horse is ill, whatever his complaint may be, whether carditis, gastritis, or enteritis, still the smith and the farrier can give nothing—do not wish to give any thing—but “*a bottle wi’ saut an’ water*”; this is their alpha and omega, they can go no further, being at a complete stand if their *saut an’ water* have no good effect. That this opinion of the author of the “Concise Account” is correct, in some cases, I dare not deny; that it is also correct in many cases, I am sorry to say is true; but still there are exceptions—there are some unpretending, modest exceptions, and I have met with them, where a smith or a farrier had been attending until better advice could be procured. But I did not, in cases like the present, strut into the stable with my cane in my hand, like the author of the “Concise Account;” I did not take out a quizzing glass, and, eyeing the smith or farrier, say—“*Who the devil are you?*” No such thing; I ever keep in mind, that modesty always goes with merit: but the very reverse with fools and “dandified fellows.”

I have now arrived at page 14th, where the “malignity” of the author of the “Concise Account” first shews itself towards the Edinburgh Veterinary School; “malignity” which I would have scorned to notice, were it not that it is as far from truth as east is distant from the west. “In point of time,” says our author, “the next school is that *at* Edinburgh. I think it is not quite six years since any thing like a regular school was formed.” Reader, this is a sentence—a full sentence; but what does it contain? It says that the Edinburgh Veterinary School was formed about six years ago. But who is it that cares about such information? It is formed now, and *well formed too*; and this is the whole cause of envy and vexation to the author of the “Concise Account”—envy that may have made him, like Duncan Gray, who “*spak o’ loupin owre a linn*,” but as there are no linns about Glasgow, he may be found some morning in the “*Dominie’s hole*,” or in “*Peat Bog*,” and then there would be such a general lamentation, far exceeding that on the death of Queen Caroline.

“But,” continues the Account, “farriers, their sons, and others” (their sons too, perhaps), then began to come from dis-

tant quarters to receive instruction ; and, that they might assume some consequence on their return, they obtained testimonials from Mr. Dick, and, if I am not mistaken, from some of his *friends—medical men, and members of the Highland Society.*” The drift of this sentence will be easily seen by everybody ; ay, even by the clodpole who “ whistles for want of thought ;” and if I were the author of the “ Concise Account,” I would rather “ whistle for want of thought” too, before I would make such a malicious insinuation, which I had not the honesty, manliness, or courage, to tell broadly to the world.

It is quite true, however, that the student “ obtained testimonials from Mr. Dick,” or from his *friends, medical men and members of the Highland Society,*” because these students underwent a thorough examination, and deserved their testimonials ; and if the author of the “ Concise Account” had applied for a testimonial too, perhaps he might have got it : if not from the medical men and members of the Highland Society, I am sure that he would have got one from Mr. Dick, for the *ability* which he displayed in *practising—not veterinary surgery however.*

The author of the “ Concise Account” must surely be a queer, pugnacious body, who will sit on his chair, with his arms a kimbo, like a tailor on his shopboard, saying to his fellows when he abuses them without a cause, “ *Nemo me impūne lacesset?*” or, in the words of my own dear native tongue, “ *wha daur meddle wi’ me?*”—“ *wha daur meddle wi’ you?*” I would say to the author of the “ Concise Account,” nobody surely would think it worth his notice ; nor will a bull take the trouble of shaking a wasp off his horn.

In the same page (14th) the author adds : “ Lately there has been an annual examination of such pupils as were considered fit to practise. Several members of the Highland Society, a few of the Edinburgh physicians and surgeons, and sometimes an old pupil or two of Mr. Dick’s, attend, and assist upon these occasions.” What can this wonderful author mean by “ several members ?” Several may mean *five*, and five may mean a “ few,” and a few may mean “ several.” Five of the members of the Highland Society attend, and other *five* physicians and surgeons, belonging to Edinburgh, *friends* of Mr. Dick ; and they make the examinations of the students *a mere matter of form* ; passing boobies and numsculls, possessing only “ one idea,” like the author of the “ Concise Account ;” and that “ single idea” turning out to be a wrong one, because it is an idea that he is not “ a dandified fellow,” who obtained his diploma elsewhere. Instead of five, however, there are upwards of fifty, medical men and

members of the Highland Society, who attend the examinations as friends and well-wishers of Mr. Dick and of veterinary science.

But who are these friends and well-wishers? I am proud in being able to answer, that they are among the most talented, honourable, and worthy men of which Scotland can boast; forming, at the examinations, a perfect constellation; and if the author of the “Concise Account” could but muster *five* such friends for Mr. Dick’s *fifty*, he would soon lose the little sense that he possesses through downright vanity and sheer pride: the Glasgow bodies would require to clear the pavement for him as he came along, each saying to his neighbour, “*That is the author of the ‘Concise Account.’*”

It is said by our author, that “sometimes an old pupil or two of Mr. Dick’s attend and assist upon these occasions”—the examinations. This, like the author’s statements generally, is devoid of truth, as none of Mr. Dick’s old pupils have ever attended at any of the examinations, and of this fact the author of the “Concise Account” cannot be ignorant. But if any of the old pupils were required to assist, they would do so with skill, judgment, and impartiality, and which is saying for them more than any body could say for our author *who had read his ‘Concise Account.’*”

But, keeping Mr. Dick’s pupils out of the question, has this author never heard of two veterinary surgeons (from St. Pancras, too) who attend the examinations of the Edinburgh Veterinary School? Has he never heard of Mr. William Henderson, V.S., and veterinary surgeon to the King, who attends and assists, and takes a lively and praiseworthy interest in the success of the pupils? Has this author never heard of Mr. Alex. Gray, V.S.? Why should he have been forgotten, and his services omitted, if the author of the “Concise Account” had thought that *these were worth mentioning*? Surely, this author must suppose himself to be a very great man indeed, if he look upon these gentlemen as *nobody*.

It seems particularly strange to me, that this author should take so much trouble to *run down*, if he were able, the Edinburgh Veterinary School in every possible respect: the teacher and the taught are both served alike out of this author’s *dirty dish*; and, like *tar*, he soils every thing that he touches, or that comes into contact with him. But what is the cause of this author’s malevolence? Because, in considering the importance, the progress and prosperity of the Edinburgh Veterinary School, and the honestly-earned fame of its conductor, the author of the “Concise Account” sees his own littleness, and insignificance in the world around him. Like the Queen of Sheba, after seeing

the riches, greatness, and glory of King Solomon—after hearing his wisdom, and the things which he uttered, “there was no more spirit in her;” and it is exactly the same with the author of the “Concise Account” as with Sheba’s Queen; for, when he thinks upon “*Auld Reekie*,” and upon the increasing popularity of its veterinary school, a flood of grief comes over him, and he may be heard saying to himself, “*There is now no more spirit in me.*”

In the same page (14th), continues our author, “If Mr. Dick does not say that his lectures embrace the structure and medical management of all domestic animals, he allows others to say so for him.” Now, nothing can be supposed more unfair, silly, or contemptible than this; but it will shew of what *metal* the man must be composed; and, from the samples which we have seen of it, I cannot avoid pronouncing it *base*. And again: “But when it is considered that he (Mr. Dick) lectures only three days in the week for five months at a time,” &c. &c. &c. This insinuation is again false, and I can easily shew how; because, after December, the lectures are delivered four times weekly, and, for some months before the examination, five times, exclusive of a class on Saturday for practical students.

The want of *ability* in this author to write a book must have been felt to be very great; but his want of *honesty* in suppressing facts must have been found to be greater still. “The pupils,” says our author, “generally boast of attending two years; but, with by far the greater number, this is not true. The most of them retreat to the place from which they came whenever the session closes, and do not return till the beginning of the next.” If some of the pupils can boast of attending two years, others again may boast of having attended three, four, and five years. And if some of them “retreat” when the session closes, which I frankly admit, still they retreat *honourably*—having done their duty, but *no more*; and *they go away with the good wishes of their teacher, who is ready to welcome them back*. Not so, however, with *all* the students, I am sorry to confess; for some of them “retreated” *not very honourably*, as the author of the “Concise Account” knows right well, and have never found their way back.

“Until last year,” says our author, “Mr. Dick had neither dissecting room nor infirmary. Above the forge there was, indeed, what had once been an old hay loft, but which, in my time, *had been* economically converted into a dissecting-room and a receptacle for lumber.” Did the author of the “Concise Account” ever complain to Mr. Dick of the want of a proper dissecting-room? and can he inform me *how much he ever paid to*

Mr. Dick, which might possibly have assisted in building a new one, as the old one was “not endurable” *at times* to him, and, I believe, to him alone? Was it for the want of a dissecting-room that this author quitted the Edinburgh Veterinary School? If it was—*he kens himsel*. As for the old hay loft I will say but little, and the less that I say the better; but *if ever it should become to me a sheltering-place from the storm that rages without*, I will think of it with reverence as long as I live.

In page 15, continues out author, “the pupil has the advantage of witnessing Mr. Dick’s practice, which is *pretty extensive*.” What, in the name of common sense, does this author mean by “pretty extensive?” Does he mean that Mr. Dick has but *half of the employment* of the other two veterinary surgeons in the city? because, even then, it might be “pretty extensive.” Or does the author mean by “pretty extensive,” that he has more than them both, which would make it “pretty extensive,” indeed? Does he mean that it is “pretty extensive” from the *number* of Mr. Dick’s employers, or the *ground over which he has to travel*?—from Edinburgh to Glasgow; and even at this present time he is *at* or near Glasgow, attending a racing colt of Lord Kelburne’s, and which circumstance of itself shews,—but I will say no more on this subject.

The author of the “Concise Account” and I entirely agree if he means by “pretty extensive” the immense distances which Mr. Dick has to travel (not speaking of the trudging which his pupils have too, and I know it) from here to Ayrshire, Renfrewshire, Dumbartonshire, and every shire of them, “*frae Maiden Kirk to John o’Groat’s*,”—in fact, “*a’ the airts the win’ can blaw*.” This is what I call “pretty extensive,” although the author of the “Concise Account” may mean something that is entirely different.

I am now finished with this author’s worthless publication, and I am very glad of it; and if the author should feel that the *tawse are unco nippy*,* he may blame his own indiscretion in not considering properly what he was doing when he published such an useless, profitless, “malignant” pamphlet. The author, however, with all his vanity, and I am sure it is not little, had the prudence to make it an anonymous publication; and he did well: and for this I am willing to suppose that he possesses the *bump of cautiousness*, though not *very* large. I never saw the author of the “Concise Account,” and never may; but I do not wish him any ill for all that; and whatever I have written, although it may not be *quite agreeable* to the author of the

* Nippy, *i. e.* very smarting.

“Concise Account,” has been written without any “malignity” to that author. I may remark, too, that I had *plenty of line*, but I did not make use of it, or I might have gone to the middle of the *ocean*; but no, I merely sauntered along the *shore*, amusing myself now and then in gathering buckies and shells for the *bairns*.

The author of the “Concise Account,” if he would but think of it, should attend to his profession, and leave the writing of books to others who have, perhaps, less to do; nor should he ever think of beginning to write a book until he has got something that will either amuse or interest. His judgment must be more solid, and his knowledge, generally, more extensive; and when this is so, he would despise to try to lessen the great usefulness of the Edinburgh Veterinary School, or tarnish the fair fame of its unassuming Professor.

ACUTE RHEUMATISM.

By Mr. THOMPSON, Beith.

I HAVE had fourteen cases of this disease in Mr. Bannerman’s stables. The muscles of the shoulders and arms were generally the parts affected: the cure was a good bleeding from the jugular, and a sharp purge, and was effected in a few days.

One of these cases was uncommonly severe. The disease was in the back and loins. The horse brought forward his hind legs under his flanks, roached his back, and drew up his flanks with a convulsive twitch, accompanied by a piteous groan, almost every five minutes.

The sympathetic fever was alarming; the pulse was 90; and there was obstinate constipation of the bowels.

The horse literally roared aloud if any one attempted to shift him in the stall, and groaned incessantly when lying.

He was bled almost to fainting; three moderate doses of aloes were given in the course of two days, accompanied by small portions of hellebore. Injections were administered, and warm fomentations were frequently applied to the back and loins.

On the third day the physic operated briskly, accompanied by considerable nausea and reduction of the pulse. From that time the animal gradually recovered, contrary to the expectation of the proprietor, who had previously lost, by apparently the same complaint, two horses, each of them worth £40.

These horses are well fed, and always in good condition, but are at times worked without mercy, which, perhaps, makes them so liable to such attacks.

TRISMUS, OR CHORDS.

By Mr. JOHN TOMBS, Pershore.

May 13th.—AN aged roan horse was supposed to have bots by the proprietor. When I saw him he was standing in a hovel, lifting up his fore feet incessantly; his pulse 40, and strong. When taken out he walked particularly stiff, and very reluctantly: he could not reach the grass. The muscles of the back and neck were contracted; he moved similar to an animal with all the dorsal and lumbar vertebræ united together by ossific matter: he fed sparingly. Laxatives were exhibited.

June 4th.—The symptoms are precisely the same, with the exception of the animal being emaciated. Tonics were given occasionally. From this time to the beginning of July the symptoms remained the same, when a powerful blister was applied along the back, from the withers to the pelvis, which afforded considerable relief: in a fortnight after he could graze, gained flesh rapidly, and was very active. From the time the blister was applied he gradually improved, and in the latter part of August he was quite well.

EARLY AND FREQUENT ŒSTRUM IN A HEIFER.

By M. S. F.

SIR,—My present object in writing to you is, to communicate a fact respecting a calf of mine, which I consider extraordinary. I have for some time past been endeavouring to improve the breed of Shetland cattle, by selecting the best *natives*, and keeping *their offspring well*. The points I have been chiefly in pursuit of are, docility of temper, early maturity, and the quality of yielding abundance of milk.

In the month of June last, one of my cows produced a quey calf, which was and is still allowed to suck the mother; and in order to enable the mother to do justice to her offspring (which was got by a favourite bull) she was allowed to range through a rye grass and clover park of some extent, which was afterwards cut for hay. Now, the fact I want to bring to your notice is this,—that this calf shewed a desire for the bull at *five* months old, and has gone on since that time shewing a return of the Œstrum at very short intervals. At last, about three weeks ago, she became so troublesome, by riding down and injuring

the other cows and calves, that the woman in charge was obliged *to take her to the bull*. Her horns are only just budding, so that she could not be tied up in the byre, but was allowed to be loose.

Did you ever know an instance of a calf seeking the bull so young? The queys of this country commonly take calf from three to *five years* old: and do you consider it possible that she can conceive?

If you can find leisure, I should feel much obliged by your answering my present communication.

With feelings of respect, I am, &c.

P.S. The calf in question is entirely red, and beautifully formed; the only blemish I can find is in her ears, which are marked naturally, the tips off, and a deep slit in each ear.

[We do not recollect hearing of a quey calf seeking the bull at so early an age; but it is not unusual for very young females to have a desire for the male. It is probable that she is not impregnated; but if she is, we scarcely think it possible for her to produce the calf and live.—D.]

THE PHYSIOLOGY OF THE EYE OF THE HORSE.

By Mr. J. C. MOLYNEUX, King Street, Kilkenny, Ireland.

[Continued from p. 517.]

DISEASES OF THE EYES.

THE diseases to which the eye of the domesticated horse is obnoxious, when compared in number with the many set down by ophthalmic writers to this organ in man, are very few. But there is one among them that has proved, in every period of veterinary medicine, so fatal to vision, and, even at the present day, so obstinately pursues its course, in spite of remedial means, that it offers, in my humble opinion, a sufficient inducement for us to become well acquainted with the structure and physiology of this organ, and to pay more attention to it in a state both of health and of disease.

To an experienced veterinary oculist the aspect of health is so familiar, and the ordinary imperfections so striking, that he pronounces the organ, at the first glance into its interior, to be either sound or unsound, and here the inquiry too frequently ends. There

is, perhaps, some unnatural appearance in the eye, no matter what or how it originated : a certificate is then given of unsoundness, and there again the matter ends, and the unscientific man can do this almost as well as the scientific one. But should the horse be brought for the purpose of having a detailed and correct opinion of the nature, cause, duration, and probable termination of the malady, or to be subjected to prompt and decisive treatment, then does the mere man of little study and careless practice betray his ignorance ; while the accomplished veterinarian unravels every link in the chain of the disease, and promptly and effectually administers all the relief of which the case will admit.

The eye is liable to inflammation, common or specific, and also to cataract and to amaurosis.

Common or Simple Ophthalmia.—Though no distinction is made either in the nature or tendency of common inflammation seated in the same texture in man and the inferior animals, yet there are two remarkable points in which it essentially differs in the human eye and that of the horse. First, as it attacks the human eye, it is considered as a spontaneous or idiopathic affection ; but inflammation in the horse's eye has, I believe I may say without exception, some apparent or assignable cause. The animal seems to be exempt from this affection, on the same principle that he is less subject to idiopathic disorders in general ; not by nature, perhaps, any more than man, but from a less irregular mode of living. The seat of common ophthalmia is the conjunctiva, and its causes are external : its nature is simple, and its symptoms are few and characteristic. The treatment also in these cases is in general very simple ; many cases get well spontaneously after the irritant has been removed : others have an inflammation excited which requires immediate and active antiphlogistic measures. Should there be suspicion of the retention of the foreign body, the most likely situation to find it is the concavity of the upper lid ; on elevating or everting which, we shall, by means of a probe, probably discover a hayseed or particle of dirt adhering to or wounding the conjunctiva.

Specific Ophthalmia, the moon-blindness of the farrier's nosology, so named by them from a belief that its relapses were influenced by the changes of the moon, and from its almost certain termination in blindness, is the specific ophthalmia of veterinarians. It would appear, from the ordinary account of the case, usually to commence its attack at night. The groom discovers in the morning that the horse has got a bad eye, and he seldom fails to report that the animal must either have received

a blow, or that some foreign matter has been lodged in the eye in the course of the night ; and, indeed, the eye itself betrays appearances externally that would lead to this fallacy of opinion, for the upper lid droops, giving the organ a weak and gloomy aspect, the haw projects, and tears flow over the under lid, and trickle the cheek. When, however, we inspect the interior of the organ, we find the cornea so dull that the iris can scarcely be seen ; and the eye so impatient of strong light, that considerable efforts are made by the lids and haw to oppose every attempt to open the eye. The most effectual mode of obtaining a full view of it, is to turn the head from any direct or strong light, and then the animal will voluntarily open the eye, at least sufficiently to admit of inspection.

The pupil will now be seen more or less contracted, and presenting a hazy appearance through the dull filmy cornea ; the iris will also have suffered in brilliancy, and, perhaps, will shew some partial or general discolouration. As the disease proceeds, the cornea continues to lose its pellucid lustre, until we can no longer see through it, and which may be caused by its increased vascularity, or some interstitial effusion. The aqueous humour also becomes generally turbid. The corpora nigra, after a time, lose their jetty blackness, and the pupil becomes so contracted that we can hardly see through it at all. These internal marks of disease are attended with conjunctival inflammation. In some cases the membrane becomes intensely red, and vessels cover the opaque cornea, across which they multiply in serpentine lines. It must not be inferred that this disease proceeds rapidly and without intermission to the total destruction of the organ ; on the contrary, it is comparatively tardy in its progress, and effects the final destruction of the part by obstinately relapsing after considerable intervals of apparently restored healthy action.

The paroxysm usually continues about six weeks, and then subsides altogether, leaving the eye (should it have been the first and not a very violent attack) to all appearance unimpaired, except that it may evince rather more susceptibility of light than the sound eye, shedding, perhaps, a few tears, and twinkling a little when suddenly exposed, and having its haw more irritable and prominent than that of the eye which had escaped attack. The disease is seldom seen in both eyes at the same time ; but it will seemingly run through its course in one eye, and then, a month or two afterwards, suddenly appear in the other eye, leaving the organ after the first attack more or less injured in both structure and function. Its ordinary mode of proceeding is to attack, alternately, first one and then the other eye, until the structure or function of both have

experienced considerable alteration. The usual and the most conspicuous result is *cataract*, when the animal is left totally and incurably blind. The causes of this malady had, until the labours and researches of our Professor, never been clearly defined. Some contended that the remote cause of this disease was the plethoric state of the horse when he arrives at an adult period, that is, when he ceases to grow. Previously to this age, the blood has not only to nourish the body, but to increase it also by the addition of parts ; but the animal having arrived at maturity, it has only to support the organs it has already formed, and there must be a superabundant quantity thrown on the system.

This theory, however ingenious, is by no means sufficient to account for the constitutional predisposition evident in this disease ; nor, in fact, is the disease confined to the adult period. I have seen it at two years old. Hurtrel d'Arboval, and other French authors, assert the same, as well as Mr. Castley.

After extensive observation, it is now acknowledged to be an hereditary disease, i. e. there is a constitutional predisposition dependent undoubtedly on structural speciality, derived from the parent. The knowledge of this may be turned to account by breeding only from such parents as have not exhibited this structural aptitude, and by which means, if we fail to cure, we may contribute to prevent.

Colour has been thought to influence the liability to the affection, but no two persons agree as to the shades most obnoxious. The wall-eyed horse is, by general consent, thought to be exempt. The size of the animal may have some connexion with it, for blindness is much more rare among ponies than among larger horses ; and it is a general opinion, and one which appears founded on experience, that small retracted eyes, particularly in the heads of coarse, fleshy horses, are more predisposed to disease than others.

Hurtrel d'Arboval lays much stress on dentition, as an occasional exciting cause ; and the French writers seem to be also much impressed with the tendency of some particular food, and the nature and quality of some pasturage, to produce inflammation of the eye. With regard to simple ophthalmia, clover seems to lie under this censure, and hard food has been thought to be concerned with it, by the additional mastication which it requires ; but, gentlemen, the majority of these suppositions are altogether fallacious.

There may be a predisposition to this disease, but we must also have an exciting cause. The extensive observation and diligent research of Professor Coleman led him to believe that

the same contaminated atmosphere which is known to engender glanders and farcy, sows the seeds of disease in the present instance. Horses running wild, and breathing the untainted open air, are seldom thus affected.

It is, as you all know, a constitutional malady ; but how do we prove this ? Why, first, by constitutional derangement, which can be traced to the digestive organs and the skin : secondly, the character of the inflammation, which is neither so acute, nor so rapidly progressive as simple ophthalmia often is, and yet the one readily yields to proper treatment, while the other obstinately continues its course : thirdly, its flying from one eye to the other proves to demonstration that it must be lurking in the constitution.

The most rational indication of cure, or the treatment of a disease, is that founded on the removal of its cause. It is a common practice to draw blood, and now and then we appear to do so beneficially. The evacuation should not be sparing, and the jugular vein, on the same side as the affected eye, will be opened with the concurrent advantages of local and constitutional depletion. The temporal artery is sometimes chosen, but, in my opinion, without the prospect of equivalent benefit, since none of its branches run to the eyeball. The angular vein is opened with still less benefit.

Various tonic and other medicines have been administered at random in the hope of drawing a prize, but they have, one and all, turned out blanks. The cupri sulphas has been started as a specific, but it has proved to be only a nine days' wonder. The advocates for the locality of this affection, they who build their hopes upon various eye-powders, collyriums, &c. have been equally foiled in their anticipations.

I do not deny the occasional utility of some of these things, as co-operatives with constitutional measures ; but of themselves they are valueless.

Poppy and camomile fomentations are recommended, but they are teasing in their application : the horse, being a refractory sort of animal when he has a sore eye, has no notion of holding his head still to have it played with ; but he may permit his eyelids to be wetted occasionally with cold water, or the solution of subacetate of lead, which will answer all the purpose that may be required.

Light and air being stimulants to the organ in health, it most undoubtedly ought to be shielded from both in disease. The animal, therefore, should be placed in a dark but well ventilated stable, and blinkers ought always to be worn.

By the judicious employment of these means, we commonly

do, or are apt to think we do, hasten the departure of inflammation, and ward off or mitigate some of its consequences; but an experienced practitioner is too well aware of the liability to, and indeed the certainty of, a relapse, to repose any faith in a truce so obtained, and therefore his ordinary advice to his owner is to dispose of his horse during the interval of remission. Knowing therefore, as we do, that such horses are constantly changing owners, it is a qualification of the first importance to us in practice, to be able to discriminate between an originally sound eye and one that has been attacked by this malady. Vision may possibly be unimpaired in the latter, but we are not to suffer ourselves to be deluded by the transient appearance of health.

Cataract is an opacity, partial or complete, of the lens or its capsule, or both. The specific ophthalmia, just described, has too frequent a tendency to terminate in cataract, which, as it never appears, as it does in the human subject—a disease distinct and independent of the active inflammation of ophthalmia—can hardly be said to merit a separate place among the diseases of the horse.

There is in the cataract of horses, independent of the opacity of the lens, generally much derangement of the internal parts of the eye. The iris sometimes adheres to the lens, at other times to the cornea, and in some cases its pupillary opening is so reduced by contraction as to render the cataract hardly perceptible. This internal derangement, therefore, greatly prevents any benefit being derived from the operation of couching in veterinary practice; added to which, a horse so operated on would be under the necessity, in order to reap any advantage from the operation, to wear glasses ever afterwards. In addition to this would be the difficulty of so steadying the eye as to be enabled to perform the operation without wounding the iris or retina. The adhesions formed would also render much internal violence necessary, in order to the extraction of the lens and disorganization has also usually proceeded far beyond the lens, and its capsule: unless, therefore, we can perform miracles as well as operations, and restore all these altered parts to their former state of health, we had better never think of purchasing a cataract-knife.

The appearance of the disease is a grey or white speck, perceivable through the centre of the pupil, and which slowly and gradually enlarges until it quite blocks up the aperture. The growth of the incipient speck, during the time that the organ is suffering from ophthalmia, is commonly rapid; but as soon as the inflammatory action has subsided, its progress

becomes comparatively slow, and now and then it appears to remain quite stationary: for as soon as the cataract has formed, the inflammation generally begins to decline. There are, however, some exceptions to this.

It seems now to be a well ascertained fact, that not only does the inflammation permanently leave the eye with cataract, but, should the other eye have remained free from the disease, it is in less danger of being attacked. Under such circumstances, therefore, a cataract is hailed as a favourable omen. This is partly explained on the principle of sympathy, which is known to have great influence in ophthalmic pathology: indeed, this circumstance has been weighty enough for the artificial destruction of one eye to be recommended in this disease, in order to preserve the other.

A lenticular cataract may be firm, fluid, or milky in consistence: the first is the common variety among horses.

Opacities of the Cornea.—We sometimes meet with two kinds of opacity upon the cornea, and it is of importance that we should be able to distinguish between them, because one is very often removable, and the other never is. The permanent opacity is the result of that change of interstitial texture which is one of the sequelæ of specific ophthalmia. It has a yellow or brown tinge when it first makes its appearance, but afterwards it changes to a diffused muddiness over the whole cornea.

We must take care, however, not to confound this with the turbid condition of the cornea resulting from vascular distention and concomitant effusion. The latter is one of the symptoms of ophthalmia itself. It is only present with the inflammatory action; the other is a sequela of it, remaining the same in the interval of remission, and consisting, in fact, of an organic change in the corneal texture. The former opacity has a cloudy appearance; this is a conjunctival affection. It is evidently superficial on a lateral glance at the eye, and moreover distinguishable from the other by its remarkable white aspect; and still more certainly when we can obtain information as to its origin.

Should appearances denote inflammatory action, that should be first subdued by proper antiphlogistic treatment, for it sometimes happens that with the subsidence of inflammation the opacity disappears. Should that, however, not turn out to be the case, we may make use of some escharotic or stimulating application, in order to excite increased vascular action afresh, and thereby arouse that of the absorbents. Farriers are very fond of blowing finely powdered glass into the eye, which simply operates as a mechanical agent: calomel similarly used has a like effect. Sulphate of zinc may often be used to advan-

tage : laxative and diuretic medicines, exhibited at intervals, will also prove serviceable.

Amaurosis, or *gutta serena*, or the *glass eye of farriers*, denotes that state of the nervous structure immediately concerned in vision, in which it becomes partly or entirely insensible to light. The characteristic symptoms of this disease are, a preternaturally dilated pupil, remaining the same in a strong or weak light, and which, so far from betraying any visible defect, has an unusually lucid or glassy aspect. It is simply a state of nervous insensibility, referrible, in every case that I have seen, to injury or disease of the brain.

Mr. Percivall states, that this effect can also be produced by application of belladonna to the eye. Professor Coleman relates a case of a horse of his own that received a blow upon the side of the head from falling backward, and, after the fall, hemiplegia attacked the opposite side of the head, and the corresponding eye became amaurotic. Bleeding, purging, and stimulants to the insensible eye, produced a perfect recovery in this horse.

In conclusion, gentlemen, it falls to my lot to broach a subject that seems either entirely unknown to our veterinary surgeons ; at least, I cannot find it in the places where I should expect to gain information about it. It is a disease that I have met with four or five times, viz. matter found in the chambers of the eye, and which is of a semicircular appearance, from, as I suppose, the form of the chambers. I considered the matter to be secreted by the iris, but I could not discover the cause of the secretion in either case. The remedy, however, is simple, viz. puncturing with a small lancet at the dependent part of the eye, and afterwards applying cold lotions.

Gentlemen, I have brought these imperfect remarks to a close, and only regret that so very interesting a subject did not fall into abler hands.

SINGULAR DISEASE IN THE EYE OF A FOWL.

By MM. DUPUY and PRINCE.

ABOUT the middle of December 1831, an enzootic disease among fowls prevailed in the neighbourhood of Muzet.

One of them was sent to us to be examined. It trembled—it had frequent shivering fits—it was chilly, and got as near to the fire as it could. It was exceedingly emaciated, yet it ate well. Its left eye seemed to be much enlarged, and the eyelids being separated, there was brought into view a white mass, move-

able by the influence of the muscles of the eye: it looked like the cornea or the body of the eye that became opaque. The fowl died suddenly.

On opening it, a concrete mass was found between the eyelids and the globe of the eye, free from all adhesion either to the one or the other, and resembling pus, the most fluid part of which had been reabsorbed. The eye was perfectly sound. The buccal membrane was healthy. A little redness appeared at the commencement of the intestinal canal—no part of that canal contained any food. The brain was not examined.

Had it not been for this examination, we should have been sure that there was enlargement and opacity of the eye—whereas there was no such thing; and it would have been the easiest thing in the world to have apparently cured that eye by removing this singular deposit.

Journal, Juin 1835.

[We have met with four of these cases. We completely misunderstood the two first, and dismissed the patients as incurable: but while examining the third—a troublesome fellow—we thought that the motion of the diseased eye did not quite correspond with that of the other; and then—shame on our former superficial examinations!—we discovered the cheat. It was a foreign body, precisely such as M. Dupuy describes, and which we immediately drew out. This, however, was not connected with any other malady, as in the case of M. Dupuy. We suspect that this is not at all an uncommon disease.—Y.]

FILARIÆ IN THE GREAT MESENTERIC OF A HORSE.

By the same.

THE great mesenteric artery of a horse that was examined after death presented a circular dilatation which enclosed a puriform lamellous bed, a line in thickness, and very hard. In the middle of this pseudo-membranous bed we found a considerable number of the strongyli filariæ. This membrane was easily detached; and beneath it we found the proper tunic, unaltered. One of the divisions of the anterior mesenteric presented a considerable injection of the capillary vessels, between the internal and central membrane.

This dilatation was doubtless attributable to the presence of the *strongyli filariæ* that had irritated the internal membrane. These phenomena are very similar to those of the serous membranes, which, in their first stage, present an injection of the sub-serous vessels, and in their completion, a false membrane, a fibrous transformation, a cartilaginous and osseous deposit. We frequently see these membranes presenting an osseous or ossiform capsule, especially in aneurismal deposits.

This is usefully considered with reference to the production of worms within the great mesenteric artery, and the alteration of structure which they cause. These parasites are lodged in numerous little cells, which are formed at the expense of the arterial tissue. The tissue becomes tumefied—it assumes a considerable thickness, and is formed into a substance fibrous, hard, resisting, osseous. Some have considered this change as of a scirrhus nature, but it is not so; and it is of importance in animal pathology to distinguish the fibrous transformation, which passes into the state of cartilage and bone, but which never degenerates into ulceration, as scirrhus and cancer do.

Journal, Juin 1835.

WORMS BETWEEN THE TUNICS OF THE STOMACH.

As an illustration of the last case, the following account of the dissection of a leopard is transcribed from the Journal of the Medical Superintendent of the Menagerie of the Zoological Society of London:—

Sept. 5th, 1835.—This animal seems to have a very unpleasant taste in his mouth, and has been half sick once or twice. As he lies in his den he heaves much at his flanks, and the countenance is peculiarly distressed. He is evidently ill; but he is a savage beast, and cannot be meddled with. Give six grains of calomel, and the same quantity of the white antimonial powder.

6th.—It died last evening. On opening it there was the most extensive and acute peritoneal inflammation that I ever saw. There was scarcely a portion of the membrane unaffected, and the pain, one would think, must have been excessive; yet there was nothing observable, or, at least, there was nothing observed in the countenance or appearance, or habits of the animal until the day on which it died. The cause of this peritoneal inflammation was most singular. Near the fundus of the smaller

curvature of the stomach was a hard tumour, the size of a walnut. I cut it away with the portion of the stomach to which it belonged. It projected externally more than internally. It seemed to be raised upon the muscular coat under the peritoneum, and was of a steatomous character. I cut into it, and it contained a hollow in the centre filled with worms, apparently strongyli, pointed at both ends, and one extremity of a hard horny appearance. There were seven or eight of them, curled up in a kind of ball, occupying the central cyst, and they were alive.

On examining the tumour more carefully I found perforations through its parietes, both into this central domicile and into the abdomen. Those into the abdomen were small and comparatively indistinct; yet a worm was actually working its way through one of them, and two were floating loose in the abdominal cavity. The perforations from the tumour into the stomach were much larger; but there were not any worms in the stomach. I have often seen worms of a different character, longer and smaller—*filariæ*—loose in the belly, and wondered how they came there; but I never before traced them to their nests.

There was another tumour, of the same character, at a little distance. On opening it there was found the same hollow; but the lining membrane of the cyst was ragged and flaky—it was worm-eaten and destroyed. There were minute perforations here also, from the hollow of the tumour into the abdomen, and a much larger one—a kind of common way—into the stomach. This was an empty house—the worms had all escaped.

It were folly to theorize, with one poor fact alone as the basis of that theory; but we seem to catch a faint glimpse of, at least, the occasional residence, and habits, and travels, and works, and effects, of some intestinal worms; and, in the congregation of these worms in their cell, and the perforations of the parietes of that cell, we see more of insect architecture and insect life than we have been accustomed to dream of within the living being. Those who have opportunity will, perhaps, be more observant.

There can scarcely be a doubt that the peritoneal inflammation was produced by the presence and irritation of these worms.

RUPTURE OF THE BLADDER IN AN OX.

By ———.

AN ox, twelve years old, was brought to the slaughter-house to be destroyed, on account of some unknown disease.

The peritoneal cavity contained more than twelve gallons of a milky liquid, of a faint smell and sweetish taste. The whole of the loose serous membrane was covered with a false one, accompanied by many white filaments. There were adhesions between the second and third stomachs and the diaphragm, and the mucous membrane of the fourth stomach was reddened throughout its whole extent, but without any thickening or disorganization. The remainder of the intestinal canal offered nothing worthy of remark.

The bladder was ruptured at the middle of its pubian surface; the aperture was five inches in length, and the edges were much thickened. The mucous membrane had an almost blackened appearance. It had been destroyed in many spots, and had been replaced by a fibrous tissue, which of itself there formed the wall of the bladder.

The bladder contained many piriform calculi, and a powder or sand, which was analogous in composition to the calculi.

The ureter contained fragments of calculous matter, and the urethra was obliterated within an inch of the anus by a mass of puriform concrete matter, as large as a nut. It was this obstruction which was probably the cause of the rupture of the bladder.

The liver was filled with encysted tubercles. The viscera of the thorax were sound, except that the lungs contained several hydatids of different sizes.

The ox was exceedingly emaciated—its eyes were sunk in their orbits, and the skin adhered to the bones.

Journal.

RUPTURE OF THE STOMACH IN THE HORSE.

By PROFESSOR DUPUY.

AT the opening of a cart mare, eleven years old, we remarked a bloody-coloured fluid, to the amount of three or four gallons, effused in the abdomen. Portions of food were swimming in this

fluid, and also some laminæ of the epiploon, which had been ruptured.

In searching for the cause of this, we discovered a rupture of the stomach, situated at the anterior extremity of the right sac, and parallel with the great curvature. It was of an elliptical form, seven inches in length: the rupture of the serous membrane was more extensive than that of the muscular one; and that, in its turn, larger than the lesion of the mucous one.

The left sac of the stomach was distended with bran, and the right one with green meat, nearly resolved into chyme; the bran, however, was dry and disposed in layers half an inch in thickness. The mucous membrane was not inflamed, except in the immediate neighbourhood of the rupture, but the vessels of the epiploon were injected. The lining membrane of the small intestines was reddened throughout the greater part of its extent, and the mesenteric (*mésaraïques*) veins injected, and surrounded by many ecchymoses.

After having eaten greedily, this mare exhibited symptoms of indigestion. She had violent colic, and the pulse was small, wiry, and frequent; but the symptom which we have oftenest observed, and which, in our mind, is characteristic of rupture of some portion of the alimentary canal, was rapid convulsive movements of the inferior coccygean muscles, and that could be felt under the finger. This circumstance assured me that there was some internal rupture; and the post-mortem examination, twelve hours afterwards, confirmed my diagnosis. The internal lesion being thus determined, practitioners will no longer torment the animal with drink after drink, as I have frequently seen them.

I may here be forgiven if I submit one observation to the reader. Ruptures of the stomach are frequent among our patients, for two reasons: the first is, that the membranes of the stomach are naturally very friable, and easily torn, when inflamed. The second is, that we are so much in the habit of administering drinks, when the stomach is already over-distended with food. We forget that the stomach of the horse can scarcely contain more than three gallons; and if the pyloric orifice, which in a healthy state is always open in this animal, should chance to close, the stomach would be filled, distended by an ordinary meal. If in this case of distention we introduce repeated drinks, each consisting probably of a quart, at least, what will be the consequence? These liquids, little compressible, increase the evil, and cause the rupture of many a stomach that might have otherwise escaped this irreparable injury. I examined, a few days ago, a horse that had died of colic. The peritoneal mem-

brane of the stomach had given way a little; the muscular membrane had yielded, and in a few days the mucous membrane would have been rent, and the contents of the viscus poured into the abdomen.

It appears to me, then, that when a practitioner has assured himself that the violent colic, with respect to which he is consulted, had followed a copious meal, he ought to refrain from giving those emollient drinks which are so frequently administered; for the very sufferings of the horse demonstrate that there is already a tendency in some part of the intestinal tube to give way, and the assurance of that having actually happened is the convulsive action of the coccygean muscles.

I may be asked, what is the practitioner to do? Is he to stand by, a tranquil spectator of the progress of the disease? Not exactly so; we may inject into the jugular or crural vein from fifteen to thirty grains of emetic tartar, dissolved in two ounces of water. Experience enables us to speak confidently of the result of this.

The following is one of the experiments we made in order to ascertain the power of the antimony. We selected a strong horse, apparently in perfect health. We made him fast during two days, and then we permitted him to eat as much as he pleased of oats, soaked in warm water. When he began to present all the phenomena of indigestion, and could no longer keep himself up, and there remained no doubt of his being in imminent danger, we injected into the right crural vein thirty grains of emetic tartar, dissolved in five ounces of distilled water. A few minutes only elapsed ere the horse, that had lain almost motionless, began to move his jaws: there were slight movements of the limbs generally, with trembling of the muscles of the limbs; the respiration and the pulse were quickened; ineffectual attempts were made to vomit; and after two hours, liquid spumy matter, resembling that produced by physic, was voided from the anus. In six hours the animal was up, and on the following day returned to his usual food.

Some days afterwards we repeated the experiment; injecting, however, only fifteen grains of the emetic tartar. The result was precisely the same.

About the same time, a horse was condemned on account of glanders. Two drachms of emetic tartar, dissolved in five ounces of water, were injected into the vein. The horse was affected in the same way as in the two preceding cases; he purged, and was apparently well at the close of the day.

Many other cases might be cited, in order to prove that these injections are generally advantageous, and never injurious.

Timid men will say that inflammation of the vein will ensue. We can only say, that, in all the numerous experiments of this kind which we have made before the veterinary pupils, we have never seen any injurious effect produced on the vein. We have even injected twenty grains of corrosive sublimate into the vein, without injury to the vessel, although the animal was destroyed by the poison.

Journal, May 1835.

RUPTURE OF THE COLON, AND PERFORATION OF THE BLADDER OF A HORSE.

By PROFESSOR DUPUY.

I ASSISTED at the post-mortem examination of a horse ten years old, and which presented some very remarkable lesions.

At the opening of the chest, a quantity of gas was disengaged, which had an odour similar to that yielded by the contents of the colon.

The lungs had no great disease, but exhibited appearances of some former inflammatory affection.

The abdomen was distended with fetid gas, and contained at least two bucketsfull of a reddish fluid. Portions of excrementitious matter were found about the rectum and the bladder, and at the bottom of the pelvic cavity. They had escaped through a rent in the cæco-gastric portion of the colon, near the stomach. This last viscus seemed in a manner to close the rupture of the intestine, and which did not appear to be of long standing. It seemed as if the stomach, pressing against the opening, suffered only the fluid contents of the colon to escape, and retained the solid portions. There was also a rupture of the lower part of the muscular substance of the diaphragm, and the diaphragmatic surface of the liver adhered to the edges of this opening.

The most remarkable lesion, however, and what we had never seen before, was a perforation at the fundus of the urinary bladder; and not only around, but within the bladder, were excrementitious matters, both solid and liquid. This accounted for what had been observed during the life of the animal, that fecal matter, such as is usually found both in the cæcum and the colon, was discharged through the urethra.

Before the opening of the horse, the proprietor had shewn us on the litter, and on the walls of the stable, matter analogous to that which we had usually seen in the colon of the horse; and we confess that we were then unable to account

for it, never having seen any analogous fact. This evacuation of excrementitious matter probably prolonged the life of the horse, since it gave free issue to that which was effused into the abdomen by means of the rent in the colon ; and the owner told us that the horse was almost incessantly staling, and discharging this semi-fluid fecal production.

This fact of the rendering of excrement through the urethral canal, is perfectly new to us, and seems to be deserving of record.

Journal, May 1835.

A MARE WITH ONLY ONE KIDNEY.

By MM. DUPUY and PRINCE.

A GLANDERED mare was brought to the Veterinary School to be slaughtered on the 28th of October 1830.

She presented an anomaly worthy of record. She had only one kidney : it was at the entrance of the pelvis and situated a little on the left. Its form was that of the right kidney, and it was as large as two ordinary kidneys. Its scissure was placed posteriorly, and gave passage to a large vein and a ureter. Anteriorly it received, at a point exactly opposite to the scissure, an arterial branch of the usual size of the emulgent artery, and which came from the posterior aorta, between the pelvic and crural trunks. It was placed a little obliquely ; its superior surface corresponded with part of the sacrum, and the last of the lumbar vertebræ. Its anterior border was on a level with the bifurcation of the aorta, and the right angle was placed a little more posteriorly than the left. The ureter terminated on the right side of the bladder, and presented nothing unusual in its structure, except that it was a little larger than the ureters generally are. The renal pelvis was larger than usual, as was also the infundibulum ; but there was nothing peculiar in the texture of the kidney. One renal capsule was on the left side, and in its natural situation.

Journal.

THE DRUNKEN PIGS.

AN innkeeper at Marselle, in France, had occasion to empty two casks of wine. The servant gave the lees to two pigs, each of which had a bucketfull, containing at least two and a half

gallons. They ate it all up with avidity, and did not appear to be in the least inconvenienced by it ; but on the following morning they were found stretched motionless on their litter, and seemingly dead. They were dragged out of the sty, in order to be buried, when some one said that he thought they yet continued to breathe, and their owner left them on some straw in the court.

Happening to pass that way in order to visit some patients, says M. Tester, a French veterinary surgeon, the owner requested me to look at them, saying that he had no hope of saving them.

They were lying on their side, the four extremities stretched out, and it was with great difficulty that the slightest motion of the flank could be perceived. When they were moved, they exhibited no sign of consciousness or life, but lay just as they were placed.

On a more careful examination of them, the pulse could be detected ; but it was impossible to count the beatings, on account of their extreme feebleness. The skin was of a deep red colour, and the eyes were much injected.

I gave to each of them a glass of warm water, and ordered frictions to be made on the abdomen, and slight pressure on the epigastric region, in order to provoke vomiting, and which in a little time produced the desired effect.

We then administered half a dozen drops of hartshorn to each of them in a little water ; and soon afterwards they began more evidently to breathe. We left them undisturbed for about two hours, and then recommenced our frictions and pressure, and administered more of the ammonia. They now raised themselves on their fore-legs, and remained in that position a little while, but without power of further motion. They fell once more, and we had some trouble in getting them on their haunches again.

We once more attempted to get them on their legs by pressing our hands under the epigastrium, when the pressure that we made on the region of the stomach caused fresh vomiting. At length they began to grunt a little, and staggered away, running against every thing in their path ; and, finally, having wasted half a day in different attempts to sober them, and having given to each of them a pint of orange-flower water and twenty-two drops of ammonia, we left them to themselves ; but it was not until after three days that they could be considered as perfectly recovered.

This case is valuable, as confirming the power of ammonia when the drunkenness is occasioned by liquors impregnated with alcohol. In a similar case we should not hesitate to give it by

way of injection, because the act of deglutition is with difficulty performed by a drunken animal or man, and sometimes cannot be performed at all, and certainly not without hazard of the ammonia entering the trachea and the bronchi. It is deserving of consideration, how far it may be advisable to inject the ammonia into the veins of a drunken person.

Journal.

AN HERBIVOROUS MAN.

ANTHONY JULIAN, a native of the department of Var, fell suddenly into such an extreme state of poverty during his youth, that he was compelled to eat the leaves of plants, through lack of bread. That which was at first a forced and painful addition to his food, soon became an object of choice; and although, at the expiration of a few months, his situation was altered, he continued to live on raw vegetables, with the exception of three or four ounces of bread, and a little wine, and which he could without any sacrifice forego. His stomach accommodated itself without difficulty to this singular regimen; the digestion of his new food was perfect, and his health and strength increased in a wonderful manner.

The following is a catalogue of the plants that ordinarily composed his repast: The leaves of the common burnet, clover, haresfoot, sow-thistle, hawkweed, winter savory, fennel, grounzel, fumitory, sage, pellitory, wheat, oat, bent, clove, chamomile, Roman wormwood, parsley, bean, pilewort, garden patience, wild radish, teasel, rib-wort, plantain, white mustard, dandelion, cabbage, coleseed, daisy, lucern, thistle, bindweed, costmary, thyme, pine, myrtle, ivy, rock-rose, bramble, wild madder, red rose, lemon, oak, olive, reed-grass, laurel, rosemary, jasmine, &c.

Some herbs were much more grateful to him than others, and he used to distribute them into three lists. Those which he ate with the greatest relish, were the orchides, sow-thistle, pimpernel, lucern, vine-leaves, potato-leaves, mulberry-leaves, rose-leaves, the buds of the chestnut, burdock, thistles, &c.

The following he ate with appetite, but not with so much pleasure: The leaves of the wild carrot, turnip, fennel, cabbage, common briar, beet, pellitory, and the tender blades of the cereales.

The following he could eat, but he did not much relish them: the leaves of the pine, rock-rose, white-oak, common oak, rosemary, the olive tree, and the box.

His temper is mild, his disposition kind and compassionate, and his manners simple, although his intellect is sufficiently developed. His sleep is quiet and light, like that of the greater part of the herbivorous animals, and the least noise will disturb it. The sensibility of his skin is not great. Accidental burns and blows do not occasion him the sudden and acute pain which they seem to inflict on others; and when all around him are complaining of the cold, he does not seem to be incommoded by it.

Bull. de la Soc. des Sc. et Arts, du Depart. du Var.

THE VETERINARIAN, OCTOBER 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

I FEEL myself* pledged to resume the subject shortly hinted at in a part of the last "Leader"—the interference of the human surgeon with the rights of the veterinarian. That that interference does exist, and to a very considerable extent, is undeniable. How many members of the College of Physicians are there, who, when visiting a sick chamber, scruple not, *verbally* at least, to prescribe (forgive the expression) for the maladies of domestic animals, to the injury of the veterinary surgeon, and at the hazard of their own reputation too. It is a far more common thing than is generally imagined, and, to a certain degree, perhaps, excuseable, from the wish to conciliate and to soothe the patient.

Two titled M.D.'s meeting in Bryanstone Square, not many years ago, recommended spirit of turpentine for the tape-worm in a dog. It is true, they guarded themselves by directing only a small quantity of it to be given, and that in the form of pills, cum micâ panis. The discharge of bloody urine which followed put a small sum into the pocket of those who should

* Every leader is authenticated by the initial of the writer, and we have no mystery in our periodical; therefore the high-sounding plural of the personal pronoun will be henceforward omitted.

have been first consulted, or to whom the matter should have been referred. A surgeon, more venturesome, being consulted in a similar case, gave it in a liquid form, and the animal died as if struck with lightning.

A bitch, small, petted, irritable, suckled four puppies. She was doing well for a time, when all at once she staggered about the room; she fell, incapable of rising; and panted with a degree of violence, which they alone who have seen such cases can imagine to be possible. A physician and a veterinary surgeon entered the house at almost the same moment, to see their respective patients. Before the former was permitted to inquire about the biped, he was requested to join the veterinarian, and give his advice respecting the quadruped. "Well, sir," said he, "this seems to be a bad case. What do you mean to do? You will bleed, of course!" He recognized not the fearful struggles of the irritability of exhaustion. "No, sir," replied the other, "I shall do no such thing; I do not mean to kill my patient outright:" and then, addressing himself to the servant, added, "bring me up some hot water and a foot bath, as soon as you can." "Well, sir, it is your patient and not mine, but I confess that is practice which I do not understand." "Perhaps not, sir." The bitch was put into a warm bath; a dose of physic was given; and two of her puppies were taken from her. She became apparently well, only for awhile somewhat exhausted. The veterinary surgeon presumes not to guess what was said in another apartment, but he was never again sent for to that house.

Another physician happened to see a similar case, and a very bad one, on which the veterinarian was attending. He was a kind and good man, and the writer of this Leader owes him much obligation. He said little—certainly he objected to nothing; but when they were retiring, he said privately to the other, "Well, you have taught me a lesson to-day, by which, depend upon it, I shall profit."

The surgeon does not so often interfere, and yet he would have more right, for he is a thousand-fold more of a horse and dog man. In our practice on his own horse he sometimes annoys

us a little. He may, when we are out of the way, give a glass of rum and milk—a strange drink for a horse—in a case of obscure and yet acute thoracic affection, accompanied by depression and staggering—he may give a dose of physic when the animal labours under inflamed lungs ; or, the case terminating fatally, and the lungs being congested, rotten, he may blame the veterinarian because he had not detected an insignificant ulcer in the fauces. All these things have happened to the writer. These gentlemen yet live, and, for many a reason, I hold them in high esteem. Talking about another person's horse, the surgeon may, and often will, hazard an opinion as to the nature of the disease, and the treatment which, in his opinion, ought to be pursued ; but, much oftener, he will be the veterinarian's friend, if that veterinarian is a competent and well-conducted man ; because he is brought oftener into contact with him, and knows more of the horse and the dog than the physician does, and his own ignorance of many of the circumstances which modify the character and the treatment of the diseases of those animals.

But what shall I say of the general practitioner, in this metropolis at least ? Out of it he often occupies the same situation with regard to the veterinarian that the pure surgeon does here, and has the same feeling and exercises the same kindness towards him ; but that is not always the case in the country, and the exceptions are much more numerous in the metropolis. I could readily prove, with regard to certain parties a little way to the north of Oxford Street, that they have been accustomed, for many a year, to give advice for the quadruped as well as the biped, and to send in, and to put them regularly in the bill, medicines for the former just as they would the latter. It is only a few weeks ago that a horse disappeared from the window of a surgeon and accoucheur in a street leading to the Regent's Park, and who gave no other indication of his being a general dealer in drugs than the appearance of a model of this animal in the window of a seemingly private house. This was nonsense and ignorance ; but the extent of the annoyance from others, and the injury, also, to which he who practices on all domestic quadrupeds is liable, is scarcely credible. When these gentlemen do

not presume to take the case to themselves, they send word by the owner, or the owner reports it as an opinion which the medical man has given, that the case is so and so, and that this or the other should be done. On a second visit the owner exhibits some displeasure, and the veterinarian is teased, and, perhaps, made angry. “Mr. ——— thinks, that if you will examine the animal again, you will find that the malady is of a different nature from what you seem to suspect; or you will perform a certain operation, or give a certain medicine.” This is a civil intimation. The next who comes tells us, our apothecary says, “he is sure you have not examined the animal, or you would not have done one thing, and you would have done another.” Much, much oftener we are told, “our medical man has given the animal so much calomel,” or “has sent him a box of pills—here is one of them;” or “has sent him to the farrier to be bled.”

Not a week occurs in which this does not happen twice, thrice, or oftener, and we treat the matter as lightly as we can: we give a civil answer when we are sufficiently master of ourselves; but now and then we send back a very foolish, although well deserved reproof to him who meddles with another person’s profession.

I will not refer to the particular subject of the last Leader, except to say, that the melancholy circumstances which have very lately occurred at Camden Town afford a sufficient illustration of the impropriety of a human surgeon giving a decided opinion on a case of suspected rabies. A dog, belonging to a young surgeon of considerable talent and promise, became ill. The master recognized not the nature of the disease, and he sent the animal to a knife-grinder, or a blacksmith, in order to be cured. This man says that it is a case of distemper, and he will presently cure it. Both the surgeon and the smith were bitten by this dog; and both of them died hydrophobous! Not another word needs to be said on this point.

And now what is the course that the veterinarian has to pursue? One of angry remonstrance? No! that will do no good. A great deal of that of which we complain, and which we feel, perhaps, a little too keenly, is what we might expect. Our pro-

fession is of no long standing. There has hardly been time for its importance, and the legitimate situation and character of its members to be rightly appreciated: nor, in fact, have those measures always been taken which would lead to a just appreciation of their value. Those were noble sentiments that were expressed by the Professor at the students' dinner in 1834. He spoke of "the increasing respectability of the veterinary profession—the change that had taken place in their rank in society—the small number of those who would contest the ground they might now occupy, and the importance of acquiring the information and the feelings and habits which would qualify them for a superior walk of life." This was as it should be; but such were not the sentiments that had always been expressed, or the conduct that had always been pursued; but, rather, by invidious and unjust comparisons—by a singular error of judgment, it seemed as if it were the aim of those to whom the interests of the profession were entrusted, to perpetuate the state of debasement and thralldom in which the veterinary art remained after that of human medicine, once equally or more debased, had burst its bonds, and asserted its right to public estimation.

The remedy of this evil is slow in action; it may be needful that the public mind should long be kept under its influence; but it is sure. The attainments, and the justly high bearing of the human surgeon, and the evident connexion of his art with the welfare of society and the dearest charities of life, have at length won for him those golden opinions which he had a right to claim: and it is also in the power of every veterinary practitioner, who is skilful in his profession, and possesses some degree of general information, and has quitted the low associates and the low pursuits that used to be the millstone around the neck of so many—it is fully in his power to obtain the good-will and the friendship of the surgeon in his neighbourhood; and not only to prevent these interferences with his professional avocations, but his co-operation in the pursuit of medical science, and, in more ways than one, their mutual benefit. *But this must be a work of time.* Old prejudices are not at once discarded. A few, influenced by avarice, or a kind of professional sycophancy, but more from ignorance of our per-

sonal claims, or those of the art which we practise, may continue, directly or indirectly, to cross our path; but there is an increasing disposition, honourable to the human practitioner and advantageous to the veterinarian, to recognize the pursuits of each as only different branches of the healing art; and in their principles and their objects distinctly separate, and yet closely allied.

The time is not far distant when the veterinary surgeon, by his contributions to that neglected but all important subject, the knowledge of comparative pathology, that inexhaustible mine of medical improvement, will better—fully vindicate his claim to notice.

In the meantime, let him, if need be, remonstrate mildly with those who invade his rights; let him, if compelled, appeal to their justice, honour, shame: but let him be more solicitous to establish his claim to their respect by professional skill, by sterling acquirements, and by honourable conduct.

Y.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

The Bridgewater Treatises, No. 7. On the History, Habits, and Instincts of Animals.

By the Rev. WILLIAM KIRBY, M.A.

IN no part of creation are the power, wisdom, and goodness of its beneficent Almighty Author more signally conspicuous than in the various *animals* that inhabit and enliven our globe. The infinite diversity of their forms and organs, the nice and adaptation of them to their several functions; the beauty and elegance of a large number of them; the singularity of others; the variety of their motions; their geographical distribution; but, above all, their preeminent utility to mankind, in every state and stage of life, render them objects of the deepest interest; so that the pious author of these volumes could not have selected a better subject in proof of the wonderful design of the Creator.

The author commences his interesting work with a history of the creation of animals, and the great events preparatory to

it; for when the Almighty Creator, “in his wisdom, and by the word of his power, had first brought into being, and afterwards set in order the heavens and the earth; had caused the latter to bring forth grass, and herb, and tree;” when all things, in fact, were properly prepared, his next care was to enliven the earth with a different and a higher class of beings, in whom, to organization, and life, and growth, and reproductive powers, might be added, sensation and voluntary motion.

Now, what was the precise order of creation in the animal kingdom is nowhere clearly revealed in Holy Scriptures; but the author is of opinion, and it does appear probable, that, as the most perfect animal, man, was created last, the process was from those that were at the foot of the scale to those that were at the summit. When the word of power was spoken—“*Let the earth bring forth,*” the various tribes of quadrupeds issued from its teeming womb, varying infinitely in size, from the minute harvest mouse, to the giant bulk of the elephant and hippopotamus.

“The earth was now completely furnished, and decorated to receive her ‘destined king and master.’ Again the word of power was spoken—‘Let us make man,’ and he was installed into his kingdom over the globe which he inhabited, and his dominion over the inhabitants of the water, of the air, and of the earth. The entire machine was now in action, every separate wheel was revolving, and the will of Him who contrived and fabricated it had full and uninterrupted accomplishment.”

The learned author having got thus far in the creation of the world (we have used our own words, as his beautiful and truly elegant description would occupy as many pages as we have employed lines); having, we repeat, got thus far—when the generations of the world were perfect and healthful, “and God saw every thing that he had made, and, behold, it was very good,” he troubles himself with a most extraordinary hypothesis—that the instincts of the predaceous animals, instead of being urged by an irresistible impulse to fulfil their several functions, as they are at this present time, were restrained, or they must soon have annihilated the herbivorous ones. “*They must, therefore,*” says the author, “*originally have eaten grass or straw, like the ox,* and neither injured nor destroyed their fellow beasts of a more harmless character.” This was the state of things, according to the learned author, prior to the fall; but no sooner was Adam and his helpmate turned out of Paradise, than the harmony of the creation was put an end to. Then, as the poet sings—

“Discord, first
Daughter of sin, among th’ irrational
Death introduced through fierce antipathy.
Beast now with beast ’gan war, and foal with foal,
And fish with fish ; to graze the herb all leaving,
Devour’d each other ; nor stood much in awe
Of man, but fled him ; or, with countenance grim,
Glar’d on him passing.”

The reader will perceive that the author is of opinion, that the different orders of animals originated in one quarter, and from which they subsequently spread themselves, according to circumstances, over the rest of the surface ; and, to support his argument, he first alters the natural instinct of one part of them—the ferocious hyæna, the savage lion, the treacherous tiger, and the whole race of carnivorous animals, are turned into herbivorous and ruminating beasts.

It will be perceived, too, that he has well provided for the predaceous animals with straw and hay ; but for the carnivorous birds of the air, the voracious “tenants of the deep,” together with the amphibiæ, amongst whom are found the most determined enemies of man—the rattlesnake, the boa, and the cobra di capella, animals that convert the vicinities of their abodes into solitary deserts, where no other being dares to obtrude without suffering for its temerity—these, all these, are left to starve, for he does not make mention of them at all : probably they likewise ate hay and straw in Adam’s farm-yard.

The general result of historical inquiry points out the East as the earliest or original seat of our species—the source of our domesticated animals, of our principal vegetable food, and the cradle of arts and science ; but it does not furnish the means of deciding, that all living beings were assembled in one spot at the commencement of the world.

We will now follow our author to the “Geographical and Local Distribution of Animals ;” and under this head the first thing to be considered is, the means by which, after quitting the ark, they were conveyed to the other parts of the globe. The disembarkation of the venerable patriarch and his family, followed by all the animals preserved with him in the ark, took place on mount Ararat.

“It might be asked,” says the reverend gentleman, “What brought the various animals to the ark previous to the deluge ? Doubtless, a divine impulse upon them, similar to that which caused the milch-kine to carry the ark of the covenant to Bethshemesh, with the offering of the lords of the Philistines. Noah, though he probably selected the clean animals, at least those that were domesticated, could have little or no influence

over the wild ones, to compel them to congregate by pairs, at the time fixed upon for their entry into the ark. So, in the dispersion of animals, wherever man went he took his flocks and herds, and domestic poultry, and those in his employment for other purposes, with him; but the wild ones were left to follow as they would, or rather as God directed.”

Now here our author again gets into difficulties. He has embraced an hypothesis full of contradictions, and at variance with all our knowledge of living nature, in order that he might give to allegory a literal construction, and the character of revelation.”

“The astronomer,” says Mr. Lawrence, “does not pourtray the heavenly motions, or lay down the laws which govern them, according to the statements in the Jewish Scriptures; nor does the geologist think it necessary to modify the results of experience according to the contents of the Mosaic writings.”

Every one who looks at a map of the world on Mercator’s projection, can easily conceive how the animal population of the greatest part of the old world made their way into the different countries of which it consists; but when he looks at America and New Holland, he feels himself unable satisfactorily to explain the migration of animals thither, especially those that can live only in a warm climate, at least as far as regards the former. How, he might ask, did the sloths, the ant-eaters, and the armadillos get to South America? The same question may be put with respect to the indigenous animals of New Holland—the kangaroo, the cola, the ornithorhynchus, the emu, and several others that are found in no other country. How did they, leaving the Continent altogether, convey themselves to this their appointed abode? It is true, the difficulty is not so great in the last case, on account of the numerous islands interposed between Malacca, Cochin-China, &c. and the north coast of New Holland; but then it is unaccountable (if a transit of these animals was effected by natural causes, and following that of mankind from island to island, till they reached the country to which their range is now limited), that they should have left no remains of their race in the countries and islands which they must have travelled in their route; and those that would (and very probably did) accompany man, would be a different tribe of animals, more fitted to minister to his wants; so that, with respect to these, the difficulty still remains.

“There is only one supposition,” the author confesses, “that will enable him to account for the transport of these animals in a natural way,” which is this—“that immediately subsequent to the deluge, America and New Holland, and the various other

islands that are inhabited by peculiar animals, were once connected with Asia and Africa by the intervention of lands that have since been submerged." The author now produces authorities to support his opinions. "Plato, in his *Timæus*," he says, "relates a tradition concerning an island called Atlantis, which he describes as *bigger than Asia and Africa*, situated before the pillars of Hercules, which, after an earthquake, was swallowed up by the sea. Now, IF," says the author, "such an event as the submersion of the vast island of Plato did really happen, it surely would affect the whole terraqueous globe, produce convulsions far and wide, and cause various disruptions in its crust, and elevations in other parts from the bed of the ocean." This throws some weight into the scale in support of the author's opinions, *if it be true* (credat Judæus); for thus a way would be open, though certainly a circuitous one, for the migration of those animals to America that are found in no other part of the world; and supposing Asia to have been disrupted from it at Behring's Straits, even then they could scarcely have ascended to so high a latitude in search of their destined home.

Such extraordinary opinions as these, however, do not merit a moment's consideration; and, consequently, it must be admitted, that the animals of America originated on the very soil which, to the present day, they still inhabit.

Buffon, we believe, was one of the first who advanced, that each kind had a determinate spot, which was its original abode; and that from that region it afterwards issued, according to the perfection of its locomotive faculties, and spread through distant regions.

Asia has been in all times regarded as the country where the human race had its beginning, received its first education, and from which its increase was spread over the rest of the globe. This is the native abode of rice, the vine, pulse, fruit, and all other vegetable productions from which man draws his nourishment. Here, too, all the animals are found wild which man has tamed for his use and carried with him in his travels—the cow, horse, ass, sheep, goat, camel, pig, dog, cat, and even the serviceable rein-deer, his only attendant and friend in the icy deserts of the frozen polar regions.

The collection of beings such as these in one central point, and their gradual diffusion over the whole globe, is quite consistent with history; and from what we know of their organic capabilities, they are capable of sustaining with man in his migrations great varieties of climate, food, reproduction, and manner of living. But when we look to the rest of the mammalia, we find at every point abundant proofs of animals being confined to

particular situations. The inhabitants of the deep seem also amenable to this law ; for we are told that there is not a single animal of the Northern Ocean of the same specific character as those in the South Seas.

The simple fact itself, that every country has its peculiar animals, affords a strong proof of design, and of adaptation of means to an end ; and, in our humble opinion, the reverend author, if he had avoided speculative opinions, that wear such an aspect of the marvellous as to appear out of the regular course of nature, and confined himself more to the domain of natural history, would have much better fulfilled the wishes of the late Earl of Bridgewater in the present treatise.

When we reflect on and endeavour to estimate the countless number and endless variety of objects in the animal world, and farther consider the manifold attributes and characteristics of those only which are familiar to us, we cannot but wonder at and reverence the omnipotence of the Creator. "He made every living thing after its kind ;" formed it with organs and senses peculiarly and wisely adapted to its *natural situation*, and for its destined purposes ; endowed it with instinct and faculties to obtain its own subsistence, to guard its life, and perpetuate its species. From the monstrous leviathan of the deep to the smallest insect that lives in the waters ; from the unwieldy and sagacious elephant to the most minute animal that moves on the earth—there are regular and systematic gradations—there are uniformity, harmony, and *infinite design* ; and the omniscience of God is as truly manifested in the organization of an insect as in the boundless range of the multitudinous creation.

K.

Traité de l'Age du CHEVAL, par N. F. GIRARD, &c.

[Continued from p. 537.]

AN account of the teeth of the hog, extracted from this author, will render the account of the age of domesticated animals complete to those who are in possession of the first edition.

We are aware that a knowledge of the age of the hog, by the inspection of his teeth, will not often be of much importance. We have rarely recourse to them in order to judge whether the animal is young or old ; nor, indeed, could we do it without much trouble and some danger ; still it may occasionally be interesting to know something of the matter, and especially with reference to those intended for breeding.

The hog has in each jaw six incisor teeth, two tushes, and

fourteen molars; sixteen of these teeth are temporary, and replaced by those that cannot again be changed. The temporary teeth are the same as those in the dog.

SECTION I.—*The Incisors and the Tushes.*

A.—The incisors of the upper jaw are not of the same form or size as those in the lower jaw, and seem designed to fulfil different functions. Four of the upper incisors—the pincers (actually the centre teeth, but here designated according to their function), and the middle teeth (the teeth between the pincers and the corner teeth)—present the same conformation, and are fashioned and fitted the one to the other; while the corner teeth are separated from the middle ones, and look as if they were isolated teeth, of little use to the animal. The four first, short, thick, and curved backwards, do not differ from each other, except that the pincers are stronger than the next pair. Their outer face, which at first is black, striated, and, as it were, shagrinéd, insensibly become white and polished. Their upper surface, obliquely placed, present, as in the horse, a cavity, of which the bottom is black and the edges unequal; the outer one being most elevated, and the inner one slightly sloped. Continued use gradually wears down the edges, destroys the cavity, and produces a plain surface. The root of these incisors is pyramidal, and provided with an interior cavity, which undergoes the same changes as in the horse.

Each superior corner tooth, being in some sort out of the rank, is found in the middle of the space between the middle teeth and the tushes. It is a short straight tooth, of the fleur-de-lis form. The root is simple, and longer than the body of the tooth; and the tooth itself has considerable analogy to the small supplementary molar of the lower jaw. It is very liable to be broken or torn out, and it very seldom continues long in the head.

The temporary incisors of the upper jaw differ from the permanent ones, not only because they are smaller and almost round, but by the position of the supernumerary incisor, which is close to the tush, and sometimes almost obstructs its growth. This struggle, as it were, between the teeth, occasionally so interferes with the feeding of the animal, that he is almost starved. It is then necessary to draw the incisor, which is effected without difficulty or after-inconvenience.

The six incisors of the lower jaw are planted in a more regular row, and in a direction forwards and upwards; the pincers and the middle ones touch, but the former are a little broader and higher than the others; the corner teeth are placed at a little

distance from the middle ones. These teeth differ much from those of the upper jaw ; they are longer, rounder, and almost straight. They resemble a true pincer, prolonged in a forward direction, and designed to root up or reverse different substances ; or to attack them in other ways. At the age of two or three years they are black, and without polish on their outer surface ; but they afterwards become white, and perfectly united to each other. Their superior face is not precisely smooth ; it is rather irregularly rounded, presenting an anterior border a little more distinct than the other, and with a sort of slope. This upper face is not surrounded with a ledge or border, as in the ox and the dog : it carries, nevertheless, two well-marked longitudinal canals.

The inferior corner teeth are formed like the pincers and middle teeth, except that these teeth, smaller and shorter, constitute, as in the upper jaw, a kind of abortion, or supernumerary incisors, placed behind the middle teeth and in front of the tushes.

B.—The tushes are large and long teeth, curved within and without ; and, in either jaw, and on either side, between the corner teeth and the first molars. These four teeth, most useful to the animal both for attack and defence, continue to increase in size as long as the animal lives, but in different shapes in either jaw. The tushes belonging to the upper jaw of a full-grown pig, are larger than, but they are not so long as, those of the lower jaw. Being drawn from its socket, each of the superior tushes looks like a very large tooth, a little pyramidal, the base of which is the extremity of the root, and which is curved both within and without through its whole extent. The superior tush rubs and wears its anterior face against the tush belonging to the lower jaw ; but as it grows and lengthens, it turns itself outward, raises the lip, and at length pushes beyond it, and shews itself on the outside of the mouth. In young animals the extremity of this tooth has a black circle, but which afterwards disappears, and at different times in different subjects. Its internal surface is roughened by several longitudinal channels.

The tushes of the lower jaw acquire a prodigious length in an old animal, particularly in the uncastrated boar. They cross the superior tushes as they pass out of the mouth. In proportion as they increase in size they become curved backwards and outwards, and at length sometimes assume a spiral form, and thus interfere with the motion of the jaws. These occasional enlargements are mostly seen in old boars, and it becomes necessary to cut off these projecting teeth, either with the file or nippers.

The temporary tushes are generally very small, compared

with the permanent ones, whether in the adult animal, or one of the age of three years.

The protrusion and wear of the incisors and tushes.—At its birth, the pig generally has the corner teeth and the tushes in both jaws; and at the expiration of three or four months, all the milk teeth are cut.

At six months, the corner teeth of the lower jaw are shed, and the permanent ones appear at the expiration of a few days. At this time the pincers and the middle teeth are worn on their upper surface.

At ten months, the supernumerary incisor of the upper jaw gives place to the permanent tooth, and its fall is followed or accompanied by that of the inferior supernumerary incisor.

At some period between eight and eleven months, the milk tushes are lost, and the permanent ones speedily follow, considerably stronger and larger.

In the course of from twenty months to two years, the pincers of both jaws are replaced by the permanent ones.

From two years and a half to three years, the middle teeth undergo the same changes, and the hog will then have acquired all his permanent teeth. He is then said to have a perfect mouth.

All the incisor teeth, and the inferior tushes, become blunted and rounded, and there is a gradual obliteration of the cavity on their surface: but these various alterations, complicated with the loss of some teeth and the breaking of others, and particularly of the corner ones, have not been observed with sufficient accuracy to afford any exact indication of the age.

SECTION II.—*The Molar Teeth.*

The molars of the hog are seven in number on each side, above and below. They increase gradually in size from the first to the last; the last is always the largest, and it is of the form of a triple crown. The first of these teeth, the supernumerary molar, is not renewed, and which continues only until a certain age.

The inferior supernumerary molar, larger than that above, is analogous to the supernumerary incisor of that jaw. It has the form of a fleur-de-lis, and is isolated between the tush and the real molar. The supplementary tooth of the superior jaw touches the molar next to it, and seems to assist it in the mastication of the food. The three inferior molars, behind the supplementary one (*avant molaires*), are depressed laterally; their surface is elongated from before backwards, and divided at several irregular points.

The back molars (*arriere molaires*), larger than the front ones,

have their surfaces flattened, yet studded with irregular points. The six superior molars, larger than the inferior ones, have the same general conformation with them. Their surface resembles that of the three inferior back molars. From this description of them it will appear that the grinders of the hog tear and crush and break down the substances exposed to their action.

The little pig, when born, has four molars in each jaw, two on the right and two on the left; and he is provided with all his temporary teeth when he is three months old. According to M. Viborg, the protrusion of the supernumerary molars occurs at from five to six and a half months, and the first back molar is cut about the same time. The second back molar makes its appearance at ten months; but the last does not ordinarily find its way through the gum until the animal is three years old. The replacement of the second temporary molar happens from fifteen to eighteen months. The first temporary front molar continues longer, and is shed at two years old.

SECTION III.—*Recapitulation.*

The calculation of the age of the pig, as evidenced by the teeth, has not yet been pushed beyond three years; it has stopped at the protrusion of the adult middle teeth of the lower jaw.

It has been seen that, at three or four months, the young pig is provided with all his incisive milk teeth, as well as the tushes; and the successive replacement of these teeth is the only sure guide to the knowledge of his age.

From six to ten months.—The shedding and replacement of the corner teeth—the change of the upper corner teeth preceding that of the lower ones by two or three months; the milk tushes give place to the permanent ones.

From twenty months to two years.—The change of the pincers in both jaws, and the formation of a black circle at the base of the tushes.

From two and a half to three years.—The protrusion of the adult middle teeth in both jaws; the pincers are black, shagrinéd, and a little rounded at the extremity. After three years, the age is appreciated by the growth of the tushes, which continue to increase in length and thickness as long as the animal lives. Between three and four years, the upper tushes begin to raise the lip, and at five years old they protrude through the lips. At six years of age the tushes of the lower jaw shew themselves out of the mouth, and begin to turn in a somewhat spiral form. At this period, also, the eyebrows become wrinkled, and the lateral eminences of the forehead, caused by the roots of the tushes of the upper jaw, become more projecting. After seven years, the

eyebrows become grey, and the bone of the superior arch of the orbit is so much more prominent, that the eyes appear to be hollow and sunk in the head. These alterations of the face, which are continually increasing, concur, with the length of the tushes and the largeness of the snout, to give to the head of the animal a hideous aspect.

Y.

Veterinary Jurisprudence.

A SINGULAR LAW,

Respecting the Sale of Horses at Public Fairs, in the Act of William and Mary, which, although obsolete, yet is still in force.

ON Saturday, at the Lewisham Petty Sessions, Mr. Marshall, of Deptford, was charged by Mrs. Martyn, of Chiselhurst, with having in his possession a valuable bay gelding, her property. It had been stolen, in May last, from the complainant, and no tidings were heard of it until a few days ago, when her coachman saw it grazing in a field of Mr. Marshall's.

It appeared from the evidence adduced, that Mr. Marshall had purchased it from Mr. May, a respectable horse-dealer at Deptford; and that he (Mr. May) had bought it at Hertford fair, in May last, of a person whose name he did not know, but whom he had been in the habit of meeting at the different markets.

The magistrates said, that the horse having been proved to have been stolen, it must, under these circumstances, be given up to the owner.

Mr. Parker, the magistrate's clerk, read several clauses in the Act of William and Mary, in which it was enacted, "That it should not be lawful to purchase any horse, mare, or gelding, at any fair or statute market, unless such animal had been publicly paraded up and down such market or fair for one hour at least; and that the purchaser should require the seller to go before the clerk or person appointed to take the toll, who should then enter the name and address of the seller in a book to be kept for that purpose; and if such seller were not known to such clerk, the purchaser must produce one credible witness to speak to his knowledge of the seller: and the clerk shall also make one special mark on such horse, so as to enable him to identify the same; and that the purchaser should take a certificate of the entry

thereof by such clerk ; and in default of his producing the same if the horse should be proved to have been stolen, a justice of the peace shall be empowered to order the restoration of the animal." The penalty for not complying with the above regulations is £5.

Mr. May said that none of these regulations were observed at horse fairs, and that no registers were now kept. The magistrates replied, that though the custom might be obsolete, the law was still in force.

Evening Mail, 7th Sept. 1835.

GLANDERS.

Allen v. Porteus.

THIS was an attempt to recover the price of a glandered horse, according to the prevalent opinion that such horses are unsaleable, unless it is distinctly stated that they are glandered when sold.

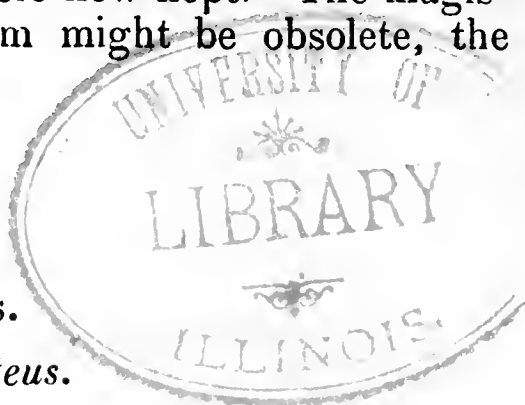
The complainer applied to defender for a cheap serviceable horse, and was supplied with one said to be so, but only a little short in the wind. Upon trial, the complainer found the horse a serviceable one, but making a noise through his nostrils, which he supposed to be the short wind spoken of. Relying upon the honesty of the seller, he paid him the price demanded, viz. five pounds.

In a few days afterwards the horse became unwell. A veterinary surgeon was called in, who stated that the animal was rapidly sinking from glanders, and that the purchaser had been imposed upon, as what he imagined to be broken wind was the noise produced by partial obstruction of the air passages from ulceration.

Upon hearing this, the complainer immediately sent back the horse to defender, stating the deception, and demanding the return of the money : but the distance which the horse had to travel being considerable, the animal became exhausted, and fell and died upon the road, only a few yards from his former home.

This statement of the case was, however, delivered by the person in charge to defender, who refused to return the money ; and an action was now brought against the defender, before the Sheriff of the Small Debt Court, for the recovery of the value.

The defender, of course, denied that the horse was glandered when in his possession, and offered to prove so by his servants, but no proof was brought forward. He admitted that the horse was a little wrong in the wind.



The veterinary surgeon deposed, that there was nothing wrong with the animal's wind; that the noise produced was in consequence of ulceration of the air passages; that the disease had been of long standing; that the bones covering the frontal sinuses upon the one side were considerably prominent; and that the ulcers in the nostrils were in every stage of development, and several patches, where ulcers had been, were now whole.

The Sheriff stated, that he saw no claim whatever for the recovery of the price of the horse. He believed glanders to be a very bad disease, but the horse was not warranted sound, nor did the price given warrant him. He viewed the case as in any other commercial transaction, that the buyer must in such cases make his eyes his surety.

The veterinary surgeon cautioned the Sheriff with regard to his view of the case. He said that glanders was certainly an exception to that rule, as writers on this disease state that the law is severe against any person offering for sale a glandered horse. It was a contagious disease, and no person would purchase a horse if he knew it to be glandered, for he would certainly endanger his whole stock. Within these three years he had known several farmers who had lost their whole stock of horses, amounting to the value of some hundred pounds, by having horses imposed upon them in a similar manner. Will you not, said he, in this case, be sanctioning the sale of glandered horses for broken-winded ones?

The agent for the defender here objected to the interference of the veterinary surgeon, he using undue influence in regard to the decision of the case, and he requested that the officer might remove him from the bar.

Messrs. Editors,—I was the witness in the above case, and can vouch for its accuracy. Mr. Youatt stated, in volume v, page 204, of *THE VETERINARIAN*, that the law is severe against any person offering for sale a glandered horse, and even against the working of glandered horses. I have inquired of several lawyers about this: they think that such is the law, but they cannot point out the statute. The sheriff in the above case appeared to be ignorant of such a law. I therefore presume that it would be acceptable to many of your readers, if you would favour us with extracts or decisions on the subject; and, as two other cases are now depending in court of a similar nature, an early notice will at least oblige,

Your faithful servant and well-wisher,

ROBERT THOMSON.

[The same circumstance that prevents us from introducing a Lecture into the present Number, has likewise taken from us the power of inquiring fully into the legal authorities on this case. We have been disappointed where we expected to find them, but we will try again, and at an early period.—Y.]

Miscellanea.

BATH FOR THE PRESERVATION OF SUBJECTS.

TAKE of kitchen salt and alum each $2\frac{1}{4}$ lbs; nitre four ounces; water ten gallons. The subject may be presevered in this solution for two or three months: a little more of the salt being added in very warm weather.

DOCTOR TRANCHINA'S METHOD OF PRESERVING DEAD BODIES.

THE operation consists in injecting into the left carotid artery, by means of a syringe, a solution of two pounds of arsenic in twenty pounds of spring water, or, what is better, spirit of wine, and the solution coloured with minium or cinnabar. If there are any appearances of the commencement of putrefaction of the intestines, he introduces the same liquid into the abdominal cavity by means of a trocar. By the employment of spirit of wine all the parts of the body preserve their freshness and firmness much longer, and which is a matter of considerable consequence in anatomical preparations. By these means alone a dead body may be preserved without smell or change during two months; and it retains all its freshness, flexibility, and natural colour. At length he dries and hardens it, when it takes a dark colour, and may be kept during many long years.

M. Tranchina has also attempted to combine arsenic with the injections commonly used, and which he knows hardens as it cools. He has injected the dead body of an infant in this manner, and it is perfectly preserved.

As a reward for this discovery, he received the decoration of the order of Francis I, and also 3000 ducats from the King of Naples.

Bulletin General de Therapeutique, Juin 1835.

LAMB WINE.

THE Chinese have a kind of very strong spirit or distilled water, said to be drawn from lamb, which the Emperor Kanghi drinks sometimes : but few make use of it except the Tartars, as it has a disagreeable taste, and soon intoxicates. Among the Tartars it passes for an excellent liquor.—*Du Halde's China*, p. 43.

DESTRUCTION OF SHEEP IN CHINA.

SOMETIMES nearly or quite one half of the sheep in the Empire of China are carried off in one year. The mortality commences in the beginning of spring, when the herbage rots on the ground, and the sheep have nothing but the roots, which they scrape up with their feet. The pestilence ceases when the new grass begins to grow.—*Astley's Compendium of Voyages*, vol. iv, 738.

TO PRESERVE BEASTS FROM DISEASE ALL THE YEAR ROUND.

PUT out of thy stable all thy beasts, or what other cattle thou hast, the three nights following hereafter, and make the stalls and stables very clean, and the mangers also, and give a beast no meat those nights in those places ; and these be the three nights, —Christmas eve, Newyears eve, and Twelfth eve.—*Godfredus's Husbandman's Practice*, 1688.

OLD FARRIERY.

Farcion, or *Farcie*, is a scabbe or knobbes breaking in divers places of his body, and commeth chiefly in the veines.

Rume is taken by cold ; so his teeth will wax loose and seeme long ; and then he cannot eate his meat, but it will lie in lumps about his jaws.

Ring-bone is a hard gristle about the hoofe.

Splent is a splend (Qy. what ?) sinew above the fetter-locks.

Staggers is a dizziness of the head, breeding of cold and of the yellowes.

Cords is a slacke sinew in the legges before.

Feaver is a sicknesse taken with cold, and will cause him to shake.

Thistula is an old rotten sore in the body.

Mallender is a scab in the bone of the knees.

Navel-galleds is a sore on his backe against the navel.

Pin or *Web*, which covereth the beard of the eye.

Spavin is on the joint in the hoofes behind.

Surbating is under the soales of the feet on the further side.

Vives is a certain curnel under the ear, or a canker in the mouth or throat.

The English Farrier, or Countryman's Treasure, 1636.

HORSE AND FOOT.

DR. MONSEY told me that he was once in company with another physician, and an eminent farrier. The physician stated that, among the difficulties of his profession, was that of discovering the maladies of children, because they could not explain the symptoms of their disorder. "Well;" said the farrier, "your difficulties are not greater than mine, for my patients, the horses, are equally unable to explain their complaints." "Ah!" rejoined the physician, "my brother doctor must conquer me, as he has brought his cavalry against my infantry."—*Taylor's Records.*

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MR. YOUATT'S VETERINARY LECTURES,
DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE L.

Cramp—Stringhalt—Chorea.

CRAMP is a sudden, involuntary, and painful spasm of a particular muscle, or set of muscles. It differs from tetanus in its extent and duration, and, perhaps, in its occasionally attacking the muscles of organic life. Doubtless many cases of dislocation of the patella, and obscure hock lameness, have been mistaken for cramp; but you will not be long in practice without witnessing instances of the plain and palpable occurrence of this transitory tetanus; and particularly affecting, as it chiefly does in the human being, some of the muscles of the hind (lower) extremities. It is mostly observed in the morning, when the horse is first brought out of the stable, and especially in an animal that is pretty hardly worked. One of the legs appears stiff, inflexible; it is, in a manner, dragged after the horse. This proceeds from the accumulation of muscular irritability in the extensors, and a sudden spasmodic action of them, in order to balance the power which the flexors have gained over them during the night. After the horse, however, has proceeded a few steps, the stiffness nearly or quite dissappears; but sometimes a slight degree of lameness remains during the greater part of the day.

Treatment.—It is rarely that the veterinary surgeon has anything to do with this. If a certain degree of lameness remains, he may endeavour to find out the muscle chiefly affected, and which he will easily do by a feeling of hardness, or an expression of pain, when he presses on the extensors of the hock somewhat above that joint: he may then order plenty of good hand-rubbing at the time, or a little more attention to grooming generally, or a wider or more comfortable stall, as the circumstances of the case may seem to require; and here his services will cease.

Cramps of the organic Muscles.—We have no means of ascertaining how far the stomach of the horse may be affected with cramp; but we have abundant evidence of its existence in the intestinal canal. Spasmodic colic is nothing but cramp—sudden, involuntary, and painful contraction of the muscles of a certain portion of the small intestines: but this will be best considered when the digestive system is treated of. One of the most decisive symptoms of cholera in the human being is cramp of the muscles of the extremities; and where a very similar affection has been observed in the horse, the disease has been preceded or accompanied by an almost tetanic affection of the limbs. A zebra died of cholera in the Zoological Gardens. Soon after the commencement of the attack she was almost a perfect fixture; when forced to move, she fell immediately: and the shock of the fall—the sudden and forcible action of other muscles—gave present and evident relief, by disturbing this concentration of energy on the set of muscles first affected.

Cramp in other Animals.—No one who has been accustomed to the observation or medical treatment of working oxen has failed to observe the painful attacks of cramp to which they are subject, and occurring, time after time, until the fasciæ of the muscles are inflamed, and chronic rheumatism ensues; and this sometimes, and at no great distance of time, succeeded by palsy. Our duty here will principally consist in awakening the agriculturist to a sense of his own interest and the duties of humanity. What else can be expected, when these too-frequently abused animals, heated and fatigued, are turned into the cold and wet, to gather their, perhaps, scanty meal?

Dogs are sometimes painfully, and at other times ludicrously, attacked with this disease. I have seen the Italian greyhound, or the hairless Barbary dog, as it has crossed the marble hall of its owner's abode, convulsively catching up one leg and then the other, and at length yelling in consequence of the pain of cramp, excited by contact with the cold stone. I have heard the pointer that after a hard day's work has been turned out, during the cold night that succeeded, into some ruinous outhouse; I have heard him, too, howl with agony when he has first begun to stretch himself in the morning. The enforcement of kindlier attention to the comforts of a valuable servant will be the duty of the veterinarian here.

Stringhalt.

An affection very much allied to cramp, is that sudden and spasmodic action of some of the muscles of the thigh, when the horse is first led from the stable, and which we designate by the

singular name of *Stringhalt*. One or both hind legs are caught up at every step with great rapidity and violence, so that the fetlock sometimes almost touches the belly; but, after the horse has been out a little while, this usually goes off, and the natural action of the animal returns. In a few cases it does not perfectly disappear after exercise, but the horse remains a little lame.

Nature of Stringhalt.—There can be no reasonable doubt as to the nature of the disease. It is not a perfectly involuntary action of a certain muscle, or a certain set of muscles. The limb is flexed at the command of the will; but it acts to a greater extent, and with greater violence, than the will had prompted. There is an accumulation of excitability in the muscle: the impulse that should have called it into natural and moderate action causes it to take on a spasmodic, perhaps painful one.

Cause.—How many ingenious but contradictory theories have been advanced, in order to account for this peculiarity of gait. The muscles—which of them are concerned? Clearly those by which the thigh is brought under the belly, and the hock is flexed, and the pasterns are first flexed and then extended. But by which of them is the effect principally produced? When there is such an unnatural contradictory combination of action—if you will forgive the expression—such flexions, and extensions, and rotations, as are never seen in the natural play, whether simple or combined, of any of these muscles, it would be almost folly to attempt to guess at the one principally concerned.

Dissection.—The hind extremities of a horse that had stringhalt must ever be a valuable subject of minute dissection. It is not always easy to obtain the opportunity of dissecting such a horse. Some veterinarians, however, much to their credit, have sought for, and diligently availed themselves of the opportunity. But what has been the result? The greater number of inquirers thus employed have found no lesion at all.

Melanosis.—One gentleman, and his opinion deserves attention, attributes it to *melanosis*. This is a deposit of the carbonaceous matter of the blood, either on the fasciæ of the muscles, or infiltrated into their substance; or, now and then, enclosed in a minute portion of cellular tissue, and assuming the form of a tumour; not always, or often, the consequence of injury, or producing much injury; but much more frequently a mere chemical effect—a deposition of one of the constituents of the blood. Melanosis has often enough been found in the horse without this morbid nervous affection of the parts on which the deposit was lodged; and comparatively few horses that had been

affected with stringhalt (I believe only the one examined by this gentleman) have exhibited the slightest appearance of melanosis.

Ganglionic Enlargement of the Nerve.—I once thought that I had discovered the cause of stringhalt. In dissecting a horse that had exhibited this singular nervous affection, I found an evident enlargement of a ganglion on one of the branches of the crural nerve, which, passing between the rectus and the vasti, supply them with nervous influence: and when I considered the connexion of the same nerve with the psoas magnus and the iliacus, I was the more disposed to think that this ganglion was connected with, or was the cause of the stringhalt. The next, and the only other horse which I dissected that had had stringhalt, presented a ganglionic enlargement of the sciatic nerve, bestowing influence on the gastrocnemii above, and the flexor metatarsi, and the extensor pedis below. Although I was thus driven from the crural nerve, I was more convinced that the affection was connected with a ganglionic enlargement of some one of the nerves of the hind leg; but I could not meet with any one who had seen these ganglionic enlargements of the nerves; I conversed with one and another of my pupils, when they paid me an occasional visit, and who had complied with my request to search into this matter, and not one of them had met with a ganglion; and I began to suspect that I was mistaken, and, in fact, knew nothing at all about the cause of stringhalt.

In a discussion, in 1829, in the Veterinary Medical Society (now, I am sorry to say, defunct, for it was an honour and a benefit to the profession), a gentleman, whom all his brethren highly respect, Mr. Field, gave it as his opinion, that the prevailing cause of stringhalt was idleness. To a certain extent I believe him to be perfectly right. From the long holiday of the flexors during the standing of the horse in idleness, and the shorter one of the extensors during sleep, I can well conceive that there may be a disproportionate accumulation of nervous irritability in one or the other of these two systems, the extensors and the flexors, and occasional cramp would be produced; but not this singular, unnatural, and habitual affection of one or both legs. Nor can I conceive that any of the antics in which these animals, from want of something else to do, frequently indulge themselves, could produce or degenerate into so strange a distortion of action as this. The origin, however, of this disease, and the antecedent circumstances, have not been sufficiently noticed and recorded.

Fracture of the Spine, or Injury of the Spinal Chord.—My talented friend, Mr. Percivall, is disposed to refer the seat of

stringhalt to the spinal chord, or to the nervous trunks passing between it and the affected muscles; an opinion which he first began to entertain from having observed a broken-backed horse exhibit all the characteristic signs of stringhalt: and he imagines that “many injuries of the loins, although not severe enough to constitute broken back, may so far disturb the nervous functions as to cause stringhalt. Should the injury or the consequences of that injury be confined to one side, then only one column of the marrow would be affected, and but one leg convulsed.”

Mr. W. Goodwin, in the discussion to which I have already alluded, is disposed to be of the same way of thinking. He says, “that a horse in his stables had stringhalt in both hind legs; and that he fell one day in the school, and died. Three of the dorsal vertebræ were anchylosed, and the spinal canal was at this point considerably narrowed.” It can be very readily supposed, that a serious injury of the spine and the spinal chord would materially interfere with the functions of the nerves that are given off at that place, and that stringhalt would occasionally be produced by this cause; but, on the other hand, there is often anchylosis of the whole of the lumbar vertebræ without producing the slightest symptom of stringhalt: and this nervous affection has often existed without the slightest apparent lesion of the spine, or the cord which it contains.

It is useless to pursue farther this part of our subject, for the truth of the matter is, we know nothing of the cause of stringhalt, and nothing of its cure. You, however, I trust, will eagerly avail yourselves of any opportunities which your practice may give you to illustrate this obscure disease.

Curious Opinions.—It may relieve the dryness of a lecture on such a subject to refer to the opinions of two writers. The first is old Solleysell, in whose works there is a great deal that is good with respect to the form and general management of the horse, and a great deal of absurdity with regard to his diseases and their treatment. He says, that “stringhalt proceeds from a certain thick and tough matter that falls from the upper parts upon the muscles, and obstructs the motion of the hock; so that the horse is forced to perform the whole motion with his hip, snatching up his leg on a sudden, and lifting it up higher than the others. You must immediately,” he proceeds, “give the fire, as in bone-spavin; for it dissolves, and consumes a part of that thick and tough matter, which, obstructing the muscles of the horse, causes this unseemly motion.”

Mr. John Hinds throws, to me, a perfectly new light upon the subject: “This over-action of the hind leg may be brought about by art, or rather the ingenuity of man operating upon a known

function of nature. The horse-exhibitioners, having occasion for much shew at their amphitheatre courses, sought to bring on this high shew by puncturation. To them let the secret belong ; it is barbarous and unseemly." But enough of this foolery !

The Use of Setons.—We know nothing of the cause, and nothing of the cure. An instance of cure stands not, I believe, in the English records of Hippopathology. Some of the French writers recommend the use of setons. A case is recorded by M. Rodet, jun. A cavalry horse long had stringhalt : by and by, from being suffered to go frequently into a running stream in order to drink, and not being rubbed dry afterwards, cracks in the heels began to appear ; they increased ; the pasterns and the fetlock swelled considerably, and there was every character of chronic grease. M. Rodet very properly had recourse to the long-continued use of setons within the thighs : and he found, after a while, that not only was he conquering the grease, but that the stringhalt was gradually diminishing. The setons were continued during three months, at the expiration of which time the horse became perfectly sound. If curative measures are adopted, I know not of any so likely to succeed as the long-continued application of a powerful counter-irritant, like a seton, in the neighbourhood of the affected part.

How far interfering with the Value of the Horse.—Now, gentlemen, comes an important question. What connexion is there between stringhalt and the supposed value, or deterioration of the horse ? Some very experienced practitioners have maintained that it is a pledge of more than usual muscular power. You and I have heard it asserted, and by those who know something about the matter, that " there never was a horse with stringhalt that was incapable of doing the work usually required of him." Most certainly we continually meet with horses having stringhalt, that pleasantly discharge all ordinary, or even extraordinary services ; and it may with some plausibility be argued, that we require in a horse, not only perfection of the nervous system, in order that there shall be a sufficient supply of that energy by which muscular action is excited, and also a powerful muscular system, that shall be able to accomplish what the will dictates, but a susceptibility in the one to be acted upon by the other. It is this susceptibility which as much as, or more than anything else, constitutes the difference between activity and dulness—in fact, between a good horse and a bad one : and although stringhalt is excess, or irregular distribution of nervous power, it at least shews the existence of that power, and the capability in the muscular system of being acted upon by it.

I should not, however, go so far as this by a great deal. I do not like these irregular distributions of vital energy. They argue disarrangement—disease of the system; and, I should say, a predisposition to greater derangement. Stringhalt is a sad inconvenience while it lasts. For the portion of time that it does last, it materially interferes with the speed of the horse; and I have thought that, while the general strength and endurance of many a horse affected with this spasmodic action could not be denied, yet that I could not recollect one horse of superior speed that had stringhalt. I have also thought, that the true explanation of the apparent strength and endurance of the horse with stringhalt is, that this affection, not being attended by those injurious consequences which such morbid, out-of-the-way action would lead us to expect, we conclude, that the horse that bears it so well must necessarily be a strong and a good one.

How connected with Soundness.—This decides, or rather I have already decided, the question of soundness. It is an irregular supply of, or disposition to be acted upon by, the nervous influence: *it is a diseased state of one or the other system, or both.* It prevents us from suddenly and at once calling upon the horse for the full exercise of his speed and power, and therefore *it is unsoundness*: but it so little interferes with the general service of the horse, that it would not weigh a great deal against other manifest valuable qualities. I am not aware that this question has ever been mooted in a court of justice; but I think that a horse with stringhalt should be considered as unsound.

Chorea.

One other disease of irregular distribution or reception of nervous power remains to be considered—that convulsive involuntary twitching of some muscle or set of muscles, which is known by the name of Chorea.

In the Horse.—A few, and very few cases of it are recorded in the horse; and none of these bear all the characters of Chorea. Gohier relates one in which it attacked both fore-legs, and especially the left; but the affection was not constant. During five or six minutes the spasms were most violent, so that the horse was scarcely able to stand. The convulsions then became weaker, the interval between them increased, and at length they disappeared, leaving a slight but temporary lameness. Every means of cure was fruitlessly tried; and the disease continued until the horse died of some other complaint. In another case it followed sudden suppression of the discharge of glanders, and disappearance of the enlarged glands. This, also, was intermittent during the life of the animal.

In the Dog.—Although there are no recorded cases of it in cattle, sheep, or swine, he who has been in the habit of observing or treating the diseases of these animals has occasionally seen it in a slight degree; but it is of frequent occurrence in the dog. It is a common consequence of distemper that has been unusually severe, or has been improperly treated: and it is occasionally seen even after that disease has existed in its mildest form. It first appears in one leg or shoulder, and is long, or perhaps entirely, confined to that limb. There is a singular spasmodic jerking action of the limb. It looks like a series of pulsations, and averages from forty to sixty in a minute. Oftener, perhaps, than otherwise, both legs are similarly affected. When the animal is lying down, the legs are convulsed in the way that I have described; and when he stands, there is a pulsating depression, or sinking of the head and neck. In some cases the muscles of the neck are the principal seat of the disease; or some muscle of the face—the temporal muscle beating like an artery—the masseter opening and closing the mouth—the muscles of the eyelid, and, in a few cases, even those of the eye itself. These convulsive movements often, yet not uniformly cease during sleep, but that sleep is usually disturbed. If the case is neglected, and the dog is in a debilitated state, this spasmodic action steals over the whole frame, and the animal lies extended, with every limb in constant and spasmodic action. In the majority of instances, such an expenditure of nervous and muscular power slowly wears the animal down, and he dies a mere skeleton: or chorea gradually assumes the character of epilepsy, or it quiets down into veritable palsy. In the most favourable cases, no curative means having been used, the dog regains his flesh and general strength, but the chorea continues; the spasmodic action, however, being much lessened: at other times, it seems to have disappeared; but it is ready to return when the animal is excited, or attacked by other disease. In a variety of instances, I have plainly observed that altered irritable temper which is said occasionally to accompany chorea in the human being; and, most certainly, when the affection has been extensive and confirmed, I have seen an altered expression of countenance, an impairment of intellect, and an approach to fatuity. Of course, the dog is *physically* incapable of being serviceable in the field.

Post-mortem Appearances.—Of the lesions discoverable after death, my account must be very unsatisfactory; and yet I have rarely lost an opportunity of searching for them. I have seen accumulation of serous fluid in the lateral ventricles, and congestion and induration of the plexus choroides, and sometimes congestion of the vessels of the membranes of the brain; but I have

found all these at other times without anything like chorea. In no case of chorea have I observed the ossific deposits on the arachnoid membrane, or the calcareous concretions in either of the hemispheres of the brain, or the irregularities or spiculæ of the inner table of the cranium, nor the inflammation of the substance of the brain, or inflammation of the spinal chord, or serous effusion in the spinal cavity, described by medical writers. In short, I have not seen any altered structure that could satisfactorily account for the disease. As for morbid appearances about the heart, the lungs, the pericardium, the pleura, &c., I have always set them down to another account.

Cause.—This disease is evidently one of debility, and either the distribution of nervous power is irregular, or the muscles have lost their capacity of being readily acted upon, or have acquired a morbid irritability. The latter is the probable state. In proportion to their exhaustion is their mobility—their loss of power to oppose a degree of tone and firmness to the influence applied to them—and their action becomes irregular and spasmodic. It resembles the convulsions of expiring nature, and not the more quiet and uniform action of health. It is not the chorea which used to be described by old authors, in which there was an irresistible mental impulse to excessive action, and which was best combated by complete muscular exhaustion; musicians being hired, and dancers hired, and the patient dancing on—one woman, with a few short intervals of sleep, footing it away for a whole month: the foundation of the disease which we have to treat in our quadruped patients is debility.

Treatment.—The term debility suggests the proper mode of treatment here: no bleeding, no excessive purgation; but aperients or alteratives, sufficient to keep the fæces in a pultaceous state, so as to carry off any source of irritation in the intestinal canal, and gradually to expel the tape-worm, or the teres, too frequent sources of irritation there. To these should be added, general comfort, nutritious food, gentle exercise, and tonic medicine. The treatment will be complete if, the dog being in tolerable condition, a counter-irritant is resorted to, and applied as near as possible to the common sensorium; a seton extending across the poll from ear to ear, and duly stimulated with turpentine or tincture of cantharides. I have used all other external stimulants, and without avail; moxa, and the heated iron to the head, and acupuncturation to the limb, have succeeded each other until I was tired and ashamed; and from neither of them have I seen the slightest beneficial result, but now and then a rapid and fearful increase of irritability. Antispasmodics are of no earthly use: narcotics are powerless. As tonics, the iron and

gentian have been serviceable to a certain extent ; but they have never cured the complaint. The nitrate of silver will be the sheet-anchor of the practitioner, and if early used it will seldom deceive him. If, which I should be very cautious of doing, I might apply the term *specific* to any medicine, I should say that the nitrate of silver was one for chorea in dogs. It should be combined with ginger, and given, morning and night, in doses varying from one-sixth to one-third of a grain, according to the size of the dog.

Prognosis.—The circumstances which should guide your prognosis, and which will seldom lead you into error, are these:—the condition and strength of the dog, and the season of the year. If the patient has not lost much flesh, and *is not losing it* at the time that you have to do with him, and has few symptoms of general debility, and spring or summer are approaching, you may with tolerable confidence predict a cure ; but if he has been rapidly losing ground, and is doing so still, and staggers and falls about, you have no medicine that will restore that animal.

Shaking Palsy.

Chorea neglected, or improperly treated, or too frequently pursuing its natural course, degenerates into *paralysis tremens*. There is a tremulous or violent motion of almost every limb ; the spasms are not relaxed—they are even increased during sleep ; and when the animal awakes, he cries with agitation and alarm. There is not a member under the perfect control of the will—there is not a moment's respite. The constitution soon sinks under this, and the animal dies. Never be induced to undertake such a case ; but endeavour to persuade the owner to permit you to put a speedy termination to that which no skill can remedy, or even palliate.

CRAMP.

By PROFESSOR VATEL.

By cramp is understood, involuntary contractions, almost always sudden, of short duration, and very painful, of one or more muscles.

They oftenest occur in the muscles of the thigh or hind leg, generally, of the horse. When first going out of the stable the animal is unable to flex his leg : this generally passes over when he has proceeded a few paces ; but, sometimes, it continues a quarter of an hour or more.

Dry rubbing with a brush or wisp of hay will usually remove it.

Cramp is occasionally observed in horses that have laboured under painful diseases ; and it especially follows severe surgical operations. The contracted muscles (and which are particularly those of the back, loins, and croup) are drawn into hard knots or tumours, but which disappear at the expiration of a few days.

CHOREA.

By the same.

CHOREA, or St. Guy's dance, consists in continual, involuntary movements of a part or the whole of the voluntary muscles ; and chiefly those of the limbs. Its progress is regular, or slightly remittent.

It is oftenest observed in young dogs, and especially after distemper ; and it seems to depend on a certain degree of primary or sympathetic inflammatory affection of the brain.

The treatment consists in bleeding, general or local, seconded by warm baths, and the administration of emollients, if the dog has distemper ; and cold baths, and the use of antispasmodics and narcotics, if chorea is not associated with any other disease.

PHRENITIS IN SHEEP.

By Mr. J. TAIT, Portsoy.

SOME time ago I was requested to look at a flock of sheep belonging to a farmer in Forfarshire. Upon inquiry, I found that the sheep, owing to the dry season (1826), had been considerably stinted in their food in the summer time, and that they had been, about a month before I saw them, staked in a field of very fine turnips. The appearance of the sheep was rather strange : for about a minute they appeared quite dull, and then all at once became quite frantic, dashing themselves on the ground, and running at every person within their reach ; others would all at once spring from the ground, and fall down and die.

I caught one, and bled her copiously, which seemed to relieve her much. I then gave her a dose of Epsom salts, which in a few days produced a cure, and by such simple treatment many of the sheep recovered.

On examining those that died, they invariably presented the following appearances:—On opening the abdomen the peritoneal covering of the bowels appeared more vascular than in its natural state, and there were some black spots on the mucous membrane of the small intestines. The lungs were very much congested. On opening the cranium, I found the vessels of the brain turgid, and almost in a bursting state, and, in fact, in some cases rupture had actually taken place, for there was an effusion of blood on the surface of the brain.

The flock was immediately removed from the turnip field, and turnips were given to them more sparingly, which soon put a stop to the epidemic, if I may so term it.

EXCISION OF THE UDDER OF A EWE.

By the same.

I SAW a ewe not long since which had been unwell for some time, in consequence of extensive ulceration that had taken place in her udder, occasioned, no doubt, by the continued flow of milk after the weaning of her lamb, and the neglect of the precaution of milking her afterwards: it was in a sad state. I immediately commenced the removal of the bag, which was easily effected. A very few of the vessels required to be taken up, and those that were secured were done so by torsion. In the course of a few weeks she was quite well.

The animal was fed for the market (as she was of no more use in the breeding department), but very much against the mistress's goodwill, as she was a favourite, and at the same time a black one.

TORSION.

By Mr. W. RICHARDSON, Royal Veterinary College.

IN my communication on torsion, I stated that I had nothing to add respecting the manner in which the operation is to be performed, as I followed Mr. Molyneux's directions. I beg, however, to correct myself; for on a reperusal of his paper, I find it might be inferred that the forceps were placed on the cord, whereas, of course, they should be and were only placed on the artery.

The number of twists or turns given by Mr. M. also appear to me to be too great. I should say five or six instead of nine.

It has been suggested, that it would be an improvement were the testicle allowed to remain on until the divided artery is secured, thus rendering the clams unnecessary. With this I concur, and shall, as soon as opportunity offers itself, put it to the test, the result of which you shall be informed of.

ON EARLY ŒSTRUM AND IMPREGNATION IN A HEIFER.

By Mr. W. A. CARTWRIGHT, Whitchurch.

IN your last number of THE VETERINARIAN there is an anonymous letter, signed "M. S. F.", respecting the early and frequent Œstrum in a heifer of his. Professor Dick made some observations thereon, the tenor of which was, that he did not recollect hearing of a heifer seeking the bull at so early an age, and that it was probable she was not impregnated, or, if she was, that he scarcely thought it possible for her to produce the calf alive: now the following case will prove the contrary:—

A Mr. Wilson, a respectable farmer, residing at Alkington Hall, had a cow that calved her third calf in the month of January, 1834. In the July following, when about six months old, this calf was bulled by a bull calf of the *same age*, when running out with her. In about nine months after she calved very well, and brought a heifer calf, and which is now rearing. Of course, it is rather small, but it is healthy, and comes on very well.

The breed of this heifer is of the short horn, crossed slightly by the Ayrshire, and she was a very fine one of her age. She has milked very well, and he thinks she will do so most of the following winter.

She was bulled again about six weeks after calving, but "broke bull" some time ago; and he does not think she is at present in calf.

Mr. Wilson informed me, that a Mr. Robert Grindley, residing near Penley, in Flintshire, has had a similar case, but that the cow died in calving. He has also been informed, that a Mr. Maddox, late of Cross-hill, near Shrewsbury, has had many of the Ayrshire breed come in at "twelve months old;" which, probably, may mean some months over that time, but respecting which my friend, Mr. Clay, of Shrewsbury, probably may obtain some interesting particulars, being in his neighbourhood.

614 UNUSUAL LONG PERIOD OF UTERO-GESTATION.

This case not only proves the early impregnation of the heifer, but also the early generative powers of the bull.

[When talking, a few days ago, with my friend, Mr. Wright, of Burnham Overy, he informed me that he had with much difficulty extracted a dead calf from a cow, if she may be so termed, fourteen months old ; consequently she could not have been more than five months old at the period of impregnation.—Y.]

UNUSUAL LONG PERIOD OF UTERO-GESTATION.

By the same.

ON the 8th of August 1834, Mr. H. K. Hales, of this town, had a half bred mare of his, eleven years old, covered for the first and only time by a grey half-bred colt of his own breeding, and three years old.

When her time was up for foaling, he sent for her home, to be taken care of ; but after keeping her for five weeks, and seeing no greater probability of her doing so than when she first returned, he sent her back again to her former pasture, a distance of ten miles from hence. During this time her udder increased in size, but varied occasionally.

On the 24th September 1835, she foaled in the field a small, weak, pretty filley colt, but which soon became hearty, and is now very well, but rather small.

This mare consequently must have gone two calendar months and sixteen days, or seventy-eight days, over the usual period of gestation, and, as far as I am aware of, a period of eighteen days more than any on record.

[Tessier, in the account which he gives of the period of utero-gestation in different animals, says, that “ in 582 mares that admitted the horse only once, the shortest period was 287, and the longest 419 days, being 89 days over and 43 under ;” and that “ in 312 mares which had been leaped several times, and dating from the last, the shortest period was 290 days, and the longest 377 days ; or, reckoning from the 330th day, or eleven months, forty-seven days over, and forty under.”—Y.]

ON CATARACT.

By Mr. THOMAS PROCTER, Solihull.

MR. MOLYNEUX, in his interesting account of the diseases of the eye of the horse, in the October Number of THE VETERINARIAN, after speaking of specific ophthalmia, thus remarks on cataract:—"Cataract is an opacity, partial or complete, of the lens or its capsule, or both. The specific ophthalmia, just described, has too frequent tendency to terminate in cataract, which, as it never appears as it does in the human subject—a disease distinct and independent of the active inflammation of ophthalmia—can hardly be said to merit a separate place among the diseases of the horse. There is, in the cataract of horses, independent of the opacity of the lens, generally much derangement of the internal parts of the eye. The iris sometimes adheres to the lens, at other times the cornea, and in some cases its pupillary opening is so reduced by contraction, as to render the cataract hardly perceptible."

Mr. Molyneux's explanation of cataract is very good; but I cannot agree with him in his assertion, that "cataract *never* appears—as it does in the human subject—a disease distinct and independent of the active inflammation of ophthalmia." That cataract, nine times out of ten, is preceded by, and the consequence of repeated attacks of inflammation of the eye, is a fact as common as the day; but still it is a settled question, with me at least, that cataract sometimes appears, and may and does run its course, independent of the active inflammation of ophthalmia, spoken of by Mr. Molyneux.

I do not stand alone in holding this opinion; for Mr. Clay, of Shrewsbury, in the trial of *Roberts v. Croft*, *vide Veterinarian*, vol. v, page 463, says, that he has known cataracts form without active inflammation, or without any previous apparent disease of the eye. He has detected small cataracts when the owners not only had no suspicion of any disease in the eye, but declared that no previous inflammation had ever existed. Testimonies of the same kind, from the pens of Messrs. Cartwright, Perry, Hales, and others, may be seen in the 7th volume of THE VETERINARIAN.

If every practitioner would testify his experience, I think the followers of the old school would be convinced that cataract does merit a separate place among the diseases of the horse. I am ready to admit, agreeably to what I have said before, that *pure* cataract is not of very common occurrence. Mr. Molyneux is the

same with cataract and ophthalmia as many are with pneumonia and pleuritis—he is for lumping them together ; but I maintain that each of these diseases may appear separately.

Three cases of what I call *pure cataract* have fallen under my own observation : I will give you a detail of one of them. Some time ago, a brown mare, aged, belonging to a lady of this place, was offered on sale. I looked her over, and considered her a stout useful animal ; but upon inspecting the eyes in the shade, I discovered a cataract in the near eye. I said to the servant, who was standing by, “ Your mare has got a cataract in the near eye, and she is blind from it.” He seemed quite astounded ; and I had great difficulty in convincing him that such was the case. He said he had looked after her for years, and was quite sure that her eyes had never been bad ; and they were considered by most persons to be beautiful eyes. Her former owners declared to the same effect ; and, in fact, she was never known to be ill a day.

After inspecting the eyes, I felt not the least surprise at this ignorance of her real state on the part of her owners ; for a professional man, carelessly glancing at the eye, might have overlooked it. However, she was sold as being blind in one eye from cataract.

This was a case in which, without the testimony of her owners, I should at once have set down as one of pure cataract ; I mean, cataract not produced in the usual way, by attacks of inflammation of ophthalmia ; for the eye, in every other particular excepting the opacity of the lens, was as beautiful a brown eye as I ever saw ; it agreed in size with its fellow, which was sound ; the cornea, aqueous humour, iris, and glandular bodies, were perfectly clear and distinct. Now, if this cataract had been the result of the inflammation of ophthalmia, I should have expected to have seen some of those accompaniments—some of those altered appearances of the interior of the eye generally, however faint—which Mr. Molyneux so justly makes mention of ; and most assuredly *I should have seen them* ; for when an eye has been the subject of attacks of the inflammation of ophthalmia, however mild, and especially when attacks more severe had terminated in cataract and blindness, that eye would not—it could not—look like a healthy one that had never suffered from disease.

HYDROTHORAX SUCCESSFULLY TREATED.

By Mr. T. G. WEBB, Whitechapel.

I TRUST that one who has studied and practised the veterinary art, although not a *graduated veterinary surgeon*, may not be considered presumptuous, if he forwards to you the history of a case which is common enough, but very rarely successfully treated—I mean pneumonia terminating in hydrothorax.

The horse in question belonged to Mr. Batley, of Whitechapel, and was bought by him at a country fair. He is eight years old, cart bred, and about fifteen hands and a half high. On the 30th of September 1835, I was requested to attend to him; but, being from home, it was nine o'clock in the evening before I could see him, when the following symptoms presented themselves:—

The tunica conjunctiva and Schneiderian membranes were highly injected; the extremities were excessively cold; the mouth hot, and very dry; the breath likewise hot; the breathing laboriously quickened; the inspiration lengthened, and the expiration rapid. The animal was standing with his fore-legs apart, and, as it were, immovable. He occasionally looked anxiously at his sides: his head was protruded, and nostrils expanded. The pulse was 97, and oppressed.

The cause of the disease was change from cold to heat. The horse came from the country, where he had been at grass nearly night and day, for when he was not working he was turned out; but now, being confined in a hot stable, inflammation of the lungs was soon produced.

Treatment.—V. S. \mathfrak{b} xvij. Being anxious to abstract as much blood as the case would admit, I made a large orifice in the jugular vein, and suffered the blood to flow until the pulse had altered its character. The animal soon afterwards appeared much eased. I then passed a seton under the integument at the anterior portion of the thorax, and one on each side; and gave a ball composed of hydr. submuriat. \mathfrak{z} ss, potas. nit. \mathfrak{z} j. I banded the extremities with flannel, and ordered that the horse should be brought to my infirmary in the morning, as the distance was but short.

Oct. 1st.—Pulse increased to 104; repeated the above ball, adding camph. \mathfrak{z} ij.

2d.—Better; pulse lowered to 85; ball repeated, adding thereto digitalis \mathfrak{z} ss: setons dressed with unguent. terebinth.

3d.—Pulse intermittent, from 60 to 75; administered ball

composed of aloes, calomel āā 3ss, digitalis 3j, nit. potas. 3j; and setons dressed.

4th.—Pulse lower, but still intermittent; ball repeated, and setons dressed.

5th.—Ditto, ditto, ditto.

6th.—Ditto, ditto, ditto.

7th.—All the symptoms suddenly abated, when, suspecting effusion had taken place, I had recourse to paracentesis. I performed the operation by puncturing the thorax between the eighth and ninth ribs with a trocar. From the left side one pint of serum was obtained, but from the right eighteen pints were abstracted.

8th.—The animal being very much debilitated, I determined to give him tonic medicine, and accordingly administered a ball composed of sulph. cupri. 3ij, gentianæ 3ss, zingib. 3ss, twice a-day.

9th.—I tapped him again, and obtained five pints from the right side, but none from the left.

10th up to the 16th.—The tonic balls were administered when the animal left my infirmary, and is now at work and doing well.

[There needed no apology for the transmission of this case. Our periodical is devoted to the accumulation of facts connected with and hastening the progress of veterinary science; and our motto has been, and ever will be, "*Non unde, sed quid.*" The history of a successful case of paracentesis of the chest is a valuable addition to these facts.—Y.]

FROM THE AUTHOR OF THE "CONCISE ACCOUNT OF VETERINARY SURGERY."

To the Editors.

I AM the author of the pamphlet, entitled "A Concise Account of Veterinary Surgery, its Schools, and its Practitioners." The substance of that little work formed the introduction to a popular course of lectures on veterinary medicine, delivered in the Andersonian University, Glasgow. I had frequent opportunities of observing in what manner the statements it contained influenced the gentlemen who honoured me with their attendance; and, considering our present relations to the public, I thought that the publication of this lecture might be of some little service to veterinarians, by making them better known.

To escape the imputation of seeking my own aggrandizement was my principal reason for suppressing my name.

In London, or in Edinburgh, there are few horsemen who are unacquainted with the existence of, at least, one veterinary school; but there are many large towns, and many large country districts, in which the majority of the inhabitants never heard of any place for the instruction of veterinarians; who never once thought such a thing at all wanted. My observations were addressed chiefly to these; and, whether wrongly or rightly, I expected that they would, at least, suggest some inquiry as to what sort of men were best fitted for treating the diseases of live stock. It was enough to let agriculturists and others know that there are places devoted to the instruction of practitioners, and that these instructions gave their possessor a decided advantage over the uneducated quack. For obvious reasons, it was necessary to do this briefly. I endeavoured to give a short and faithful account of the schools, and also of the practitioners, both qualified and unqualified. The aim of the pamphlet is stated in the first page. It is a plain statement of facts, unaccompanied by many remarks: much praise, or much censure, is not bestowed upon any individuals or any classes. The reader, for the most part, is left at liberty to form his own opinions upon the things referred to. For the execution of this task, I did not expect any thanks. I knew that the indolent, the ignorant, and the depraved, would resort to their usual dirty practices, to counteract the tendency of the pamphlet; but I was not prepared for an article from the Edinburgh Veterinary School, like that which is published in this month's *VETERINARIAN*, by a Mr. Wilson.

If I have misrepresented the Edinburgh School, I have done so unintentionally, and am very sorry for it. I regret that Mr. Dick and I have not of late been on a friendly footing: with the cause of our difference the profession can have nothing to do. I mention it, that I may disclaim all intention of depreciating the merits of Mr. Dick or his school. Such a circumstance might possibly make me less disposed to dwell upon my account of his establishment, but I hope it will never make me pervert the truth. I shall leave such miserable folly to Mr. Archibald Wilson, for which he appears to be tolerably well qualified.

Upon looking over this unfortunate individual's childish remarks, I can hardly fix upon any thing worthy of refutation: without precisely saying why, he sputters out a great deal of abuse as dirty and as mean as himself. It is not till arriving at the nineteenth paragraph, that I find any thing like a direct contradiction of what has been stated in the "Concise Account." I have there said that, at Mr. Dick's annual examinations, an old pupil or two sometimes attends and assists upon these occa-

sions : Mr. Wilson, however, in this pitiful paper of his, asserts that “ this, like the author’s statements generally, is devoid of truth, as none of Mr. Dick’s pupils have ever attended at any of the examinations, and of this fact the author of the ‘ Concise Account’ cannot be ignorant.”

This may be an error of mine. It is of no great consequence ; but I am deceived if I have not been informed that Messrs. Steel, Tennant, and Young, have each attended these examinations. I shall make inquiry for my own satisfaction. I rarely believe such men as Mr. A Wilson*.

In the twentieth paragraph, it is stated that Mr. A. Gray and Mr. W. Henderson, pupils of the London College, and Edinburgh veterinarians, attend at the examinations of Mr. Dick’s class. I have omitted to mention this in my “ Account,” because I did not know it. If true, it is a matter of some importance, and shall be remedied in a second edition ; but, without better authority than Mr. Wilson’s, I shall not venture to assert it as a positive fact†.

In the twenty-second paragraph it is said that Mr. Dick, *after* December, lectures four times every week ; and that, for *some* months before the examinations, he gives five lectures, exclusive of a class on Saturday, for practical students. I am happy to hear this, and shall be glad to learn from some respectable authority that it is true‡. I have stated in the “ Account,” that Mr. Dick lectures only three times a-week.

* Several of Mr. Dick’s pupils have attended these examinations—it would have been strange if they had not : but with a becoming modesty and good feeling they have not yet presumed to question any of the candidates. They are yet young practitioners ; but a few years hence, and perhaps even now, they would be the most efficient examiners.—Y.

† Mr. A. Gray and Mr. Henderson, with a liberality that does them a high degree of credit, do attend, and take a very active part in these examinations. At the close of the last session Mr. Henderson was present on the first day, and the questions which he put were numerous and much to the purpose. Circumstances prevented his appearance on the second day ; and he refused to affix his signature to the diplomas of the successful candidates, until he had examined them again at his own house. That private examination took place, and, after highly complimenting the young men, he affixed his signature to the documents. In the year 1834, Mr. Hallen, of the Enniskillen Dragoons, was present at the examinations, and assisted in them. In 1831, three veterinary surgeons were present ; and in 1830, the lamented CASTLEY thus speaks of the meeting. “ This year he (Mr. Dick) solicited the attendance of all the veterinary surgeons in the neighbourhood, and requested them to examine—amongst the rest, myself.”—Y.

‡ In the early part, or about the middle of January, depending on circumstances, Mr. Dick does begin to lecture four times in the week, exclusive of a grinding lecture of an hour and a half or two hours on Saturday ; and about the middle of February he lectures five times in the week—still exclusive of the grinding lecture—and continues this until the examination.—Y.

After all the abuse this ignorant clodpole has been able to lavish upon me, he can point out only these three errors,—that regarding the attendance of old pupils, that regarding the attendance of London-taught veterinarians, and that regarding the weekly number of Mr. Dick's lectures. All the remainder of his paper, which extends to nearly eight octavo pages, is composed of irrational reasoning, beggarly abuse, mountebank egotism, and the outrageous indecencies of one accustomed to the lowest of society : all is as feeble and vile as the source from which it proceeds. They that would know the extent of his reasoning powers, may consult the first two sentences of his twentieth paragraph, the whole of the twelfth and the twenty-fourth, or, indeed, almost any other. His insignificance, his infelicity of expression, the meanness of his language, the poverty of his mind, the rankness of his egotism, his pitiful and obscure insinuations, his flatulent exultation and currish allusions, pervade every page, and faithfully describe the nature of the man. The satirical efforts of this infamous reviler are sufficiently wretched ; and his apology for blacksmith quacks quite characteristic. I well know the class to which he belongs ; and I heartily despise the whole race of such fanglers, reptiles. I also know the ultimate gain Mr. Wilson expects from his paper ; and, looking at the reason I have, I cannot but consider that he who uses such means, for such ends, must be a low grovelling wretch ; one who for a very small gain can sacrifice honour, honesty, and truth. A most sorry pickthank !

If you are a young man, Master Archibald Wilson, you are much to be pitied, but, perhaps, not to be condemned as altogether hopeless. Under a long-continued course of severe restraint and of systematic training, you might possibly improve. Cherish truth. Never expect any hire for injuring the interests of another. If the pure love of truth excite your indignation—which is not at all likely—never disgrace her sacred form by the exercise of baseness for her vindication. And if mental constitution, or mere necessity, renders villany, slander, or sycophancy unavoidable, I beseech you, by your own sordid selfishness, to exhibit your odious motives in less revolting nakedness. Look at that which you have written in last month's VETERINARIAN, and compare it with that written by Mr. Youatt, in the March number ; and then, at least, pretend that you blush for shame. Get Professor Dick, or some other respectable authority, to apologize to the Editors for your folly, your infamy, and your insane audacity. Write nothing to me : for many years to come I can easily guess all you would like to say, whether good or bad ; but I profess not to cure such cattle as you.

If you are up in years, or rather elderly, relinquish all further thoughts of veterinary medicine. I am far from meaning to say that an adult can learn nothing; but it is well known that a man of mature age, who could write an article like your's, and attach his name to it, is susceptible of very little intellectual cultivation. Ours is not a science in which balderdash, sciolism, and boyish egotism, often do much good: they may delude the ignorant; but even these are quickly undeceived by the genuine practitioner, while the counterfeit is deserted. Your paper is a hundred years behind any thing like discussion. The time has been in which philosophers pretended to advance science and reveal truth, while they were merely lavishing abuse upon each other; but those days are surely gone. The babes of science, indeed, still continue to offer examples of babbling frivolity. For my own part, I wish I may never write more, if I do not ardently desire that the pages of *THE VETERINARIAN* may never again be polluted by such papers as your's and this of mine.

You have been a most injudicious friend to Professor Dick. It is your duty, though not perhaps in your power, to relieve him from the awkward predicament in which you have placed him. He has bitterer enemies than I am, who will not scruple to say that it is a pity that he waited twelve months for a champion, and found no better than a fool. I shall not easily entertain such a poor opinion of that gentleman as to believe that he sanctioned the publication of your remarks. If he had wanted defence or vindication, he has friends far more wise and worthy than you can ever be; and into their hands he might have committed himself, without any risk of the disgrace which you have unintentionally reflected upon him. I would have overcome more dislike than I have to Mr. Dick, and have devoted an extra page in enumerating his merits, and the difficulties he has surmounted, rather than have the public believe that the head of the veterinary profession in Scotland should have no more able advocate than Mr. A. Wilson. If I am not Mr. Dick's friend, I have never been his enemy. The professors of the Veterinary College, and they that were my fellow pupils, can, if they choose, testify in what respect I held himself and his opinions. But if it can be shown that he has been accessory to the publication of Wilson's *Remarks*, I shall only regret that he has undergone one of those changes which charity is loath to observe.

To conclude, if any respectable person will be good enough to inform me, publicly or privately, of the errors I have committed in the "Concise Account," I shall do what I can to

rectify them ; but, except upon compulsion, I shall not soil a page in that pamphlet by such a name as Wilson's. Let him, if he pleases, think me merciful if I should again address him. " There will little learning die that day he is hanged."—Farewell, " thou disease of a friend."

JOHN STEWART.

Glasgow, October 8, 1835.

[And, now, the pages of THE VETERINARIAN must never again be *occupied* by such papers as those of Mr. Wilson and Mr. Stewart. So far as these gentlemen are concerned, the correspondence is closed ; and I do not see how the subject can be resumed, except in the form of a calm and faithful history of the rise, and progress, and present state of the Edinburgh Veterinary School. From whom can this better come than from him who founded and continues to conduct it? Is it not a duty which he owes to his pupils, his profession, and himself?—Y.]

ABSCESSSES IN THE LIVER, MESENTERY, AND THIGH.

By Mr. JOHN TOMBS, Pershore.

July 15, 1834.—A GREY hackney mare, six years old, the property of a gentleman of this town, was taken ill in the spring of this year, with a cold and sore throat. Apparently she recovered with the ordinary mode of treatment, and was turned out to grass in a meadow adjoining the river Avon, and which was situated in a cold damp place. For the last month, her owner has observed that she is not thriving so fast as he could wish ; therefore she was brought home. An application was made to me to attend her, on account of supposed return of her former complaint.

When I visited her she was labouring under the following symptoms:—Pulse hard and wiry, sixty beats in a minute ; tongue hot and furred ; respiration a little accelerated ; appetite slightly impaired ; she lies down occasionally ; the legs and ears warm ; tunica conjunctiva unusually reddened ; she coughs frequently.

These symptoms induced me to treat her for a chest affection, and this I did for a month, with no advantage. I then thought the liver might possibly be affected, although the fæces were of

a natural colour; the eyes were not yellow, nor was there any tension of the right hypochondriac region; neither was pain produced when I applied pressure to it: however, a blister was rubbed on the region of the liver, and hydrarg. submur. administered every day. This treatment was strictly followed up for three weeks, when the animal became suddenly worse:—Pulse 90 and soft; an agonizing pain, and excessive lameness in the off hind leg; she was continually lifting it up, and could not bear any weight to be thrown on it. In two days a prodigious swelling, exceedingly painful to the touch, made its appearance on the inside of the same thigh. The thigh was continually fomented. In the course of a week she could not rise without assistance: she remained in this distressing state another week, when death terminated her sufferings.

Post-mortem appearances.—*Thorax*: lungs slightly hepaticized; pleura pulmonalis and costalis inflamed: no effusion. *Abdomen*: liver three times its natural size, and containing innumerable small abscesses. The majority of the lymphatic glands of the mesentery in a state of suppuration. The tubuli uriniferi of the right kidney distended with pus. An amazingly large abscess was situated between the aforesaid kidney and the psoas muscle. This abscess communicated with another large one in the right thigh, between the gracilis and the vastus internus muscles, and which contained a gallon of matter.

Remarks.—It is very probable that, when she was ill in the spring of the year, the cold and sore throat were accompanied by strangles; and instead of the natural process taking place—that of an abscess forming between the angles of the jaw—Nature, in one of her strange, unaccountable freaks, deposited the impurities of the blood in the abovementioned situations.

SKETCHES OF THE ANCIENT HISTORY OF SOME OF THE DOMESTICATED ANIMALS;

From Dr. Lardner's interesting Volumes on the Arts of the Greeks and Romans, in his "Cabinet Cyclopædia."

APER, THE BOAR,

As a dish, was well known to the Romans. It was served as the *prima mensa*, or first course. At first, simple joints only were served; but as ostentation increased, the whole boar appeared on the *mensa*—sometimes with the choicest joints in its inside. At length, there was even one to each guest—a degree

of profusion unexampled in any other country. This, however, could only be at great and solemn, perhaps annual, entertainments; for where could the boars be otherwise found?

BOS, THE OX.

An animal, the sacrifice of which was considered as peculiarly pleasing to some divinities: "opimam victimam laudatissimam-que Deorum placationem," says Pliny. But to be perfectly acceptable, it was to be caught in the vigour of its age, without spot or blemish: five years was the most esteemed age. Those who had the honour of a triumph at Rome offered in sacrifice the oxen of Umbria, which are said to have been all white, and to have become so by the pasturage of that province. Before the victim was sacrificed its horns were gilt. A hundred oxen, which constituted a hetacomb, were often immolated to Jove. This profusion was probably derived from the Lacedæmonians, who are said to have annually offered a hetacomb in the name of the hundred towns dependant on their jurisdiction. The horn of this animal was used as a drinking cup in most nations; and even when luxury introduced vessels of more costly material, the form was preserved. To assign a recondite origin for this custom would be vain: it, doubtless, arose from the facility with which a horn could be procured.

CANIS, A DOG.

At Rome dogs were used to guard houses, and "*Cave canem!*" was equally common with our "Beware of the dog!" In the same manner they were entrusted with the guard of the temples, and, even, of the Capitol; but, suffering that fortress to be surprised by the Gauls, one of them was ever after borne annually through the city, fastened to a cross. By the Egyptians, the most superstitious of nations, the dog was held in great veneration; inasmuch as it was symbolical of the overflowings of the Nile, and once the constant attendant of their deities, Isis and Osiris. Divine honours were paid to it. In Greece and Rome dogs were, sometimes, sacrificed to the gods; by the former to Pan, by the latter to the domestic *Lares*: both nations offered them during the dog-days, probably as a preservative against the rabid disease of that animal. The *howl* of the dog was considered as ominous in the former as in present times. Most of our popular superstitions have a classical source. By the Emperor Adrian, the dog and horse were held in such veneration, that he honoured both with the rights of sepulture—the former from its fidelity, the latter from its utility to man.

MULUS OR MULA, A MULE.

The price of a mule was greater than that of a horse :

“Ego faxim muli, pretio qui superare equos,
Sicut viliores Gallicis cantheriis.”

PLAUT.

And sometimes it exceeded the cost of a small house :

“Quod pluris mula est, quam domus, empti tibi.”

The use of mules in chariots was, for a long time, very common. The chariots of king Priam and Nausicaa (daughter of the royal Alcinous) were drawn by mules. And the royal virgin, Medea, orders mules to be yoked to her chariot. Hence we may suppose them to have been held in great estimation among the ancients ; nor did they fall into disrepute in later times. “*Nunquam carrucis minus mille fecisse iter traditur, soleis mularum argenteis.*” (Suet.) “*Mulionem in itinere quondam suspicatus ad calceandas mulas desilisse.*” (Suet.)

It is to be observed, that the word *mula* (a she mule), and not *mulus*, which signifies male, is used in both places ; the females being more frequently used in chariots than the males. Thus we may see represented on various coins, the vehicles of Agrippina, the mother of Caius, and Domitella, the wife of Vespasian, and others, drawn by mules. “*Nostra ætate Poppæa conjux Neronis Principis delicatioribus jumentis suis soleas ex auro quoque induere solebat.*” (Pliny.) Besides the Emperors and their consorts, many opulent men and women of distinction kept mules for this use. Wives, as we learn from several writers, left their husbands little respite until they had procured for them beautiful mules and costly saddles ; and Tertullian is sure that nobody but the devil could have put such vanity into their heads. They were used, also, by persons in office when they appeared in state. Alexander Severus decreed, “*mulas senas, mulos binos,*” to the Roman presidents when they journeyed into another province. When intended for chariot use, it was required that they should be sleek and handsome, and that the colour of all should be the same. “*Quid ad rem pertinent mulæ saginatae unius omnes coloris?*” (Senec.) Mules were employed in the public games, especially in chariots. They were also yoked to vehicles by the more vulgar. “*Mulis quoque celebrantur ludi in circo maximo consuales, quod id genus quadrupedum primum putatur captum jungi currui et vehiculo. Mulus vehiculo lunæ adhibebatur, quod tam sterilis sit, quam mulus : vel quod ut mulus non suo genere, sed equi creetur, sic ea solis, non suo fulgore luceat.*” (Festus.)

EQUITARE, TO RIDE ON HORSEBACK.

According to Diodorus Siculus, the Thessalians were the first to tame and mount horses, long after the invention of chariots. That province certainly had horsemen, who, at a very early period of antiquity, encountered wild beasts, and in the same way advanced to battle. The appearance of a man on horseback, doubtless, gave origin to the term *centaur*: both were believed to be the same animal; nor need we be surprised at this, as the Mexicans fell into the same error in regard to the Spaniards. Bridles were soon in use.

“Fræna Pelethronii Lapithæ, gyrosque dedere,
Impositi dorso.”

VIRG.

And so were horse-cloths, some very splendid.—VIRG.

“Stabant tercentum nitidi in præsepibus altis.
Omnibus extemplo Teucris, jubet ordine duci
Instratos ostro alipedes pictisque tapetis.
Aurea pectoribus demissa monilia pendent.”

Of saddles and stirrups, however, we have no mention; so that some agility was required to mount and guide them:—

“Corpora saltu
Subjiciunt in equos.”

But then the animals were taught to bend the knee for the more ready convenience of the riders —

“Inde inclinatus collum, submissos et armos
De more, inflexis præbebat scandere terga
Cruribus.”

SILIUS ITAL.

And less agile persons could mount by a ladder, or on the backs of their slaves, or by heaps of stones raised for the purpose. The art of riding was in vogue among the Athenians, who had expert masters to teach it. From the heroic times the horses were shod in a manner not much unlike the present. Little bells were tied to their necks, that they might be accustomed to the clank of armour and the sound of warlike instruments in battle. The Romans were no less addicted to the art; and, where animals were not at hand, the exercise of mounting and dismounting, whether armed or not, was acquired by means of *wooden* horses, which, indeed, were very common.

We subjoin the early history of a favourite horse-medicine among grooms at the present day.

ALLIUM, Garlic, like *cepæ*, onions, was one of the Egyptian divinities; "Allium cæpasque inter Deos jusjurando habet Ægyptus," says Pliny. The Greeks, however, detested it so much, that a public law prohibited him who had eaten of it from entering the temple of the Mother of the Gods. And Horace sufficiently shews how it was abominated, as worse even than poison:—

"Parentis olim si quis impiâ manu
Senile guttur fregerit;
Edit cicutis allium nocentius:
O dura messorum illa!"

Hence its use is enjoined to certain criminals, who, during some days, are rigorously debarred from every other species of food. Its expiatory nature is evident from the following passage of Persius:—

"Hinc grandes Galli, et cum sistro lusca sacerdos
Incussere deos instantes corpora, si non
Prædictum ter mane caput gustaverit alli."

It was the food of slaves, and of the poor:

"Quis te cum sectile porrum
Sutor, et elixi vervecis labra comedit?"

JUV.

"Ingemit, hoc bene sit! tunicatum cum sale mordens
Cæpe."

PERS.

Yet it was the food of soldiers, and, as such, significant of the profession. The proverb *allia ne comedas*, signified, Do not become a soldier, do not go to the war, lead a tranquil life! It was thought to possess some quality capable of calling forth the innate valour of warriors:

"That, filled with Garlic, thou may'st bravely fight,"

is literally translated from Aristophanes. And, for a similar reason, it was much used at sea:

"Tum autem plenior
Allii ulpicique, quam Romani remiges."

PLAUTUS.

It was even used by the Grecian mariners. Thus Aristophanes:

"Woe is me! I perish, since the Odomantes have despoiled me of my Garlic!"

And Suidas tells us that whenever the Athenians went to sea, they provided themselves with a sufficient stock, which they put into nets. It is thought to be a preventive against sea-sickness. Thus Pliny:—

"Magna vis allii magnaue utilitas contra aquarum et
Quorumlibet locorum mutationes."

It was the medicine, and often the food of rustics, especially of harvest men: thus Pliny,

“Allium admulta ruris præcipæ medicamenta prodesse creditur.”

And Virgil,

“Thestylis et rapido fessis messoribus æstu
Allia serpyllumque herbas contundit olentes.”

It was thought to be a good stomachic, useful, as ginger amongst us, for restoring heat to the powers of digestion. And that, if taken beforehand, it was considered availing against the bite of serpents, is evident from Æmilius Macer:

“Hæc ideo miscere cibis messoribus est mos,
Ut, si forte sopor fessos depresserit artus,
Anguibus a nocuis tuti requiescere possint.”

NEW FACTS IN PROOF OF THE ADVANTAGE OF SPAYING MILCH COWS.

By M. REGERE, M.V., Bordeaux.

SEVERAL instances have been related in your Journal of the good effect resulting from the spaying of milch cows. I would beg leave to add some cases which have come under my own observation. The cows were taken from the best dairies, but, for obvious reasons, I selected those that had met with some accident at the time of calving.

CASE I.

A large cow, fifteen years old, had calved on the 24th of January, 1834, and had, a few days after parturition, given from three to four gallons of milk per day. On the 22d of April following, she yielded only two or two and a half gallons. I then operated upon her. The pain of the operation, and the restricted diet to which she was afterwards subjected, diminished the produce to half that quantity.

As soon as the consequent inflammation had disappeared, and the cow returned to her usual food, the flow of milk rapidly increased; and, in fifteen days after the operation, the wound having healed, she yielded daily from two to two and a half gallons, and that quantity has not since diminished. She has also taken on a disposition to fatten, and is in better condition than she ever was before. She has once shewn a desire for the bull, but was not sent to him.

CASE II.

A small cow, six years old, calved on the 26th of March, 1834, and at that time yielded two gallons and a half of milk per day. On the 30th of April she gave two gallons, and she was then spayed. She suffered little from the operation; her milk did not diminish, and she yields the same quantity to the present day. She has not shewn any longing for the bull.

CASE III.

A little cow calved on the 12th of April, 1834. Some days afterwards she yielded two gallons of milk per day, and she was operated upon on the 13th of May. She seemed, for a considerable time afterwards, to be in a poor state of health; her skin became yellow; the hair fell off in patches, and particularly about her fore-quarters. She moaned sadly from time to time, and her appetite considerably diminished. The quantity of milk remained the same.

On June 20th she seemed to be really ill, and yielded, during seven days, little more than a gallon of milk per day. The quantity gradually lessened after that period, and continued to decrease until the end of July, when she was evidently dropsical. She was sometimes better, and sometimes worse, until the 4th of September, when she died.

Two pounds of a bloody serosity were found in the thorax. The lungs contained numerous tubercles; some hard, and even stony, and some soft, and others filled with purulent matter.

On opening the belly it contained, at least, seven gallons of a similar fluid. The fourth stomach and some of the intestines were softened and black, and the food contained in the first stomachs was fetid. The liver, enlarged and yellow, was softened, and it also contained many tubercles, hard or soft.

The womb was unaffected, except the extremities of the two cornua, which were of a yellow colour, and hard. Few traces of the operation of spaying remained, unless in the sublumbar region, in which a spot of a blackish colour was seen where each ovary had existed. A white tenacious tissue had united the incision made through the abdominal muscles, and caused the parietes of the abdomen to adhere strongly to the skin.

This examination after death proved that the cow was not lost from any morbid consequence of spaying, but from ascites, produced by the lesions stated, and which had existed before the operation.

CASES IV & V.

Two cows were operated upon in the month of May of the same year. One eight years old, and giving two gallons of milk

per day, and that had calved on the 10th of April, was spayed on the 8th of May. She suffered from the operation, and did not give more than two or three quarts per day; but she soon recovered, and when the wound was healed, yielded her usual quantity, and which she continues to do unto the present period.

The other, aged ten years, and that had calved on the 15th of April, and gave, a month afterwards, nine quarts of milk per day, was spayed on the 15th of May. In four days after the operation she gave again her usual quantity of milk; this increased to ten quarts, and she yields that unto the present day.

These cows shewed a disposition for, and went to the bull several times after the operation; and, being incapable of conceiving, the œstrum returns on them periodically. The first has been with the bull four times, and the other twice.

These five cows have continued to yield the same quantity of milk which they gave at the time at which they were spayed; and this, on a fair calculation of the usual gradual diminution of the secretion, is double the amount that would otherwise have been obtained in the whole period. We must not yet go farther than this, but if cows that have been spayed should continue to yield such an extra quantity of milk as long as they live, the operation will be valuable indeed.

Recueil, June 1835.

HYDROPHOBIA ;

CAN IT BE COMMUNICATED BY A DOG NOT RABID ?

[WE extract from *La Lancette Française* an account of a curious and interesting discussion at the Société Médicale d'Emulation in Paris, June 17th, 1835.]

M. VELPEAN communicated the following fact:—"A young man, fourteen years of age, but whose good constitution made him appear, at least, eighteen years old, while playing with a large and savage dog, was bitten by him in the cheek. The wound, its edges contused and reversed, reached from the external angle of the eye to the commissure of the lip on the same side, and there was considerable loss of blood. The edges of the wound were brought together by the *suture entortillée*; cold lotions were applied to it, in order to abate the inflammation that followed; and, on the 18th day, the lad was dismissed from the hospital, his cheek being nearly healed.

Seven days after this—the twenty-fifth after the wound—he was brought back to the hospital, with every symptom of what the surgeon recognized as confirmed rabies, and which had begun to be developed on the preceding night. He died on the following day.

On examination after death, no lesion was found.

M. Velpeau thought that he might draw the following consequence from this fact: viz., that it is not absolutely necessary that a dog should be rabid, in order that his bite should produce hydrophobia.

This dog was not rabid; for he was not killed until the evening of the death of the young man.

M. Flandrin thought that we should learn this lesson from the fact just narrated; viz., to cauterize every wound produced by a dog, although that dog is not suspected to be rabid.

A man, said he, in the service of M. Dupuytren, was bitten in the face by a butcher's dog. There were from a dozen to fifteen wounds on his face, produced by the teeth of this dog. M. Dupuytren advised that every one of them should be deeply cauterized with a red-hot iron. The patient refused, affirming that there was nothing the matter with the dog. This consideration, however, did not alter the opinion of the surgeon. The man submitted to the cautery; the wounds healed; and the patient did well.

M. Lepellitier said, that the saliva of an irritated animal contracted some virulent properties, and that a bite from him might, therefore, be dangerous. A nurse, having been bitten by her child, exhibited cerebral affections analogous to those of hydrophobia. A soldier, having been bitten by a comrade, died in convulsions seven days afterwards.

As to the necessity of cauterization in such a case, M. Lepellitier reported what had lately happened in L'Hotel-Dieu. Fourteen persons were bitten by one dog. Five of them were cauterized immediately with the red-hot iron, and escaped. Two had the muriate of ammonia applied to the wounds, and both of them died hydrophobous. Five had nothing done to them, and four of them died: of the two others nothing could be heard.

According to M. Vassal, rabies was a specific nervous disease, that might be spontaneously developed in man as well as in the canis and felis genera. A woman, having taken an injection of a decoction of irritating plants, died on the seventh day afterwards, in convulsions resembling those of hydrophobia. By cauterization, in the case of a bite by a venomous animal, we change the specific nature of the inflammation, and substitute simple inflammation for that which would have been the effect of the virus.

Many members, and among others M. Velpeau, thought that the case reported by M. Vassal, was one of pure neurosis.

M. Lepellitier established a distinction between neurosis and rabies. "It is rabies," said he, "when the saliva of an animal or of man can, by inoculation, communicate the same disease to other animals." It will likewise be of importance to ascertain the fact, whether, in rabid hydrophobia, the sublingual pustules that have been described by certain authors have any existence.

M. Flandrin said, that rabies did not develop itself until a certain time after the inoculation or the bite, and that usually between twenty and forty days; but that, in the case reported by M. Vassal, the nervous affection was the immediate result of the irritating injection.

M. Guillemot cited certain experiments that had been made in Italy, proving that the rabid virus of animals produces rabies only within certain limits. Thus, in four dogs successively inoculated, the one from the other, madness will develop itself in the three first alone. The same experiments were tried at Alfort; but they were not pursued, on account of the difficulty and danger which necessarily attended them.

CHARLATANISM IN FRANCE.

By M. ROCHE LUBIN, of Saint-Affrique.

[We translate some extracts from a letter of M. Roche Lubin, addressed to M. Renault, one of the Editors of the *Recueil*. It may amuse our readers a little. We are not quite so bad in England, although our profession, recognized and protected by law in France, is here impolitically and cruelly abandoned.—EDIT.]

"IN my town, Saint-Affrique, there are four shoeing smiths, either ironmongers or blacksmiths, who publicly practise veterinary medicine. In the town they take the title of *maréchaux experts**; in the country they call themselves veterinary sur-

* The French *maréchal*, we believe, is the man who forges horses' shoes, and puts them on the feet, and is not supposed to do any thing more: the *maréchal expert*, sometimes means a veterinarian who carries on shoeing; but oftener it means a person who, not having attended, or sufficiently so, any of the veterinary schools, has obtained from some veterinary institution or veterinary surgeons, certificates of capacity or skill; and these examinations cannot be granted except on the recommendation of some persons by whom he has been employed. On the receipt of such recommendation, the institution or surgeons examine him, and decide as they think right; and in virtue of their certificate he may practise the veterinary art.—EDIT.

geons or cattle doctors. Not one of them can read or write. Among them is M. Rivemale. Rivemale was once working-smith at one of the Messrs. Bouley, in Paris. Having arrived at Saint-Affrique in 1829, he surmounted the front of his shop with the title of *maréchal expert*, and in that quality he, without control or hinderance, practised on the diseases of domestic animals until 1832, when I went to reside in the same town. I soon learned that Rivemale had assumed a title that did not belong to him, and, on my complaint, the magistrate enjoined him not only to efface his assumed name, but to abandon the treatment of animals. The first he complied with, but not the last; for, a few days afterwards, in cutting off a wart from the penis of a mule, he suffered the animal to bleed to death. A *proces-verbal* of this was transmitted to the proper quarter, and the delinquent was committed to prison.

After this, by the advice of his friends, he searches for some persons sufficiently complaisant to attest, in writing, his marvellous cures; and then he petitions the Prefect of Aveyron to appoint some veterinary surgeons to examine him as to his professional skill. Messrs. Boudon and Crouzon, of Rhodéz, were appointed, and the following is a literal copy of their report:—

“WE, the undersigned, Boudon and Crouzon, veterinary surgeons at Rhodéz, in virtue of directions received from Monsieur the Prefect of Aveyron, of the 17th current, to cause the Sieur Rivemale, living at Saint-Affrique, to be examined on the different branches of veterinary medicine and surgery—have met together in one of the halls of the prefecture of Rhodéz, where, in the presence of M. Carrie, counsellor to the prefecture, and delegated by the Prefect to be present at such meeting, we have, each of us, attentively examined the said Rivemale on many maladies, internal and external; and after the answers of the candidate to all the questions which we addressed to him, and particularly on the cure of disease, and on the usual operations, we have unanimously concluded, that the said Rivemale is very limited in that practical knowledge which has been the object of this examination; he being, at the most, capable of applying himself to the treatment of external maladies, such as wounds, spavin, pricks in the feet, and other analogous diseases. We think, beside, that he should not, without great circumspection, undertake the treatment of internal diseases, especially if they have a serious character, because he is entirely destitute of anatomical knowledge. Neither ought he to deliver legal

statements or certificates concerning the appearances that present themselves on the examination of dead horses.

Signed, BOUDON & CROUZON.
Legalized by the Prefect, MARQUIS DE GUIRARD.

Thus, thanks to the intervention of our two brethren, and the certificate which they have given to him, he maintains his ground. The first thing he did, was to substitute, instead of the sign-board that was destroyed, "Rivemale treats and operates upon horses like the artists." And I? Why, I was quite beaten, and I must be quiet.

As to the certificate or diploma of our brother practitioners, I abandon it and them to your judgment. I abandon to them, and to those who may imitate them, the disgrace of rendering such service to science, to their brethren, and their country.

LEON BOSCH comes next to Rivemale. He has not yet had recourse to the kind and enlightened examination of Boudon and Crouzon. He has neither title nor sign-board. He does not wait for his patients to come to him—he runs after them. He has a medicine for all domestic animals. Always on the road, he travels from hamlet to hamlet, and from one door to another, haranguing the villagers, and prophesying evil to their cattle if they have not recourse to his remedy or his invocations. Frightened or teased, perhaps they yield, and God knows that it is often to their cost. Sang-dragon, and vipers' powder, are the base of his famous medicine, whatever be the disease. Wounds—he treats them all with oil of vitriol, and powdered alum. As to ventral hernia, and they are very frequent in our country, he pretends to make them disappear (*fondre*) with a plaister of Burgundy pitch and corrosive sublimate. It appears that the last substance is in very considerable quantity, for I have seen the parietes of the belly slough away, and the intestines come out, and the horse die a miserable death.

The third charlatan of Saint-Affrique is a farrier and iron-monger, called PIERRE GRAND; they call him the "great artist." His knowledge must, indeed, be great, for he is able to preserve the health of those that are well; and, as for the sick horses, he possesses a sovereign remedy for all their diseases. It is composed of muscadell wine and a little musk, but it must be made by himself alone—it will be efficacious in no hands but his. He communicates to it a magical power, by certain signs and gestures which he makes before and after the administration of it, lifting his hands towards the heavens, or bending himself towards the earth, as the case may require. All these solemn fooleries astound our simple merry countrymen, and they hesitate

not to give him five francs for every bottle of his mysterious beverage, while they would reluctantly part with fifteen or twenty sous for the visit and opinion of a competent veterinarian.

JACQUES BONNET worthily closes the list of the celebrated empirics of our village. He is a new-comer, and has not yet won his spurs: but if we may judge from his boasting, and the marvels that he recounts, he will not be far behind his brethren. He was an old under-farrier at the imperial school at Saumur, and he has since served, but I know not in what capacity, in the 4th Huzzars. He has already a terrible shop-board, and "maréchal expert and smith, pupil of the Royal School at Saumur," glitters in letters of gold on the wall of his shop.

He says that he was veterinary surgeon to his regiment; but because he could not prove that he was even a maréchal expert, an unwelcome visit was paid to him by the pitiless police, who proceeded to lay profane hands on his golden tablet. A lucky thought, however, occurred to him. He went to M. Havoux, a veterinary surgeon at the school of Saumur*, and besought him to pity his forlorn condition. Havoux gave him the following certificate:—

"I, the undersigned, Professor of the Royal School of Saumur, declare and certify to whomsoever it may concern, that Jacques Bonnet has followed with assiduity and success a course of farriery, theoretical and practical, and that he merited the esteem of his superior officers.

(Signed)

"Havoux."

This would not have satisfied the sub-prefect, and who indeed was disposed to pay little attention to such a document, had it not been accompanied by a letter of the wary Havoux to the said Jacques Bonnet, in which he says that he may practise veterinary medicine without danger, and that no one has a right to interfere with him. A few days afterwards I had the satisfaction of seeing the said Jacques Bonnet's name transcribed in the register labelled "Diplomas of Medical Practitioners and Veterinary Surgeons." I went to remonstrate against this; but it was whispered to me that the secretary of the sub-prefect was the uncle of Havoux, and I was silent. To reason against men in office is everywhere the pot of earth against that of iron.

Shall I rapidly enumerate a few other practitioners of high renown of which our country may be proud?

* Saumur is the chief riding school in France. A veterinary surgeon is a mere medical officer, not an instructor, there.

CARRIERE and CAGUVET, at Lapanouse, are two blacksmiths and farriers who are in high reputation for administering drinks by the nose and the ears.

MAILLE is an object of veneration among the inhabitants of Saint Isaire. He knows the stars better than Mathieu Laensborg, and he invokes their assistance both in the diagnosis and the treatment of disease.

ROUQUETTE, a farmer at Saint Sermin, and TABARIES, an ironmonger at Balmont, are famous for the cure of all sorts of coic. A phial of holy-water is their talisman. They moisten their fingers with it, sometimes the thumb, and sometimes the index or the middle finger, as the case may require, and make the sign of the cross on the belly of the sick animal, and mentally address a prayer to the saint of the day. It is true that the death of the exorcised animal often scandalises the faithful. The devil is a malicious kind of personage.

GATTIER, farrier and smith at Barnac, is not in quite so much repute for sanctity, but he is "terribly learned," as the good people about him say, for he knows how to draw the horoscope of every beast. Happily for the patients of Gattier, they have no souls to be saved; for he is violently suspected of sorcery, and it is whispered that Satan has something to do with all his operations.

PAUL, at Cornus, and BASC, at Roquefort, have a secret which is their common property. They have discovered that no malady can be efficaciously treated in the same manner in every lunation, and therefore they have twelve kinds of remedies suited to the peculiar nature and influence of each moon.

TOURNEMIRE, a farrier and blacksmith at Saint Rome-de-Tarn, has not the good fortune to be, like the preceding worthies, endowed with supernatural knowledge, but his claim to talent of a superior order is not the less legitimate. His favourite operation is the drawing of the sole. There are few horses whose soles he does not draw, especially young horses, and whether the feet be well or ill formed; for he says that they cast off the strangles in the throwing out of the new sole.

After the smiths come the shepherds and certain labourers, and who contrive to occupy an elevated situation in the aristocracy of the healing art.

AUGEN, at Pascals, and YAILES, at Baraille, are celebrated over many leagues around, for their skill in the treatment of the diseases of cattle. The proceedings of both of them are the same. They have some wood which came from the Holy-land. They reduce it to powder, and form that powder into pills, some of which they introduce into the dewlap of the diseased animal, always remembering the indispensable ceremony of invoking the

patron saint in whose commune the patient is found. After this they administer a drink composed of a thousand simple flowers.

GRAS, a labourer at Pied Mès, has found out a way to relieve himself from the fatigues of his occupation. He remains at home, and effects a cure in the cattle at whatever distance they may be. It is sufficient that they bring to him some of the mane and the hair. For every shade of this he has a powder of the same hue, and this is ordered to be given to the beast in a decoction of rosemary blessed on the day of Palms.

ARMAND, of Bartholais, does better. He has the same powders as Gras, but he finds that they will sometimes fail. He then recommends the owner to say so many masses, and burn so many tapers in the stable in which the sick animals are. I doubt whether the *curés* celebrated by Armand have ever done more.

SAMUEL, of Gos, shuts himself up for half an hour in the stable of the sick beast. At the expiration of that time, he opens the doors and windows, pronounces some magical words, invokes the saints to remove the evil; and then, placing himself before the beast, makes the sign of the cross on his forehead, practises a bleeding under the tongue, and finishes by administering a certain powder, of the composition of which I am ignorant.

At Creissels is an old shepherd, now a smith, whose medical skill is principally exercised on sheep. As soon as disease begins to appear in the flock, he has them all driven to be sprinkled with holy water by the *curé* who gravely blesses them, and says a mass over them. This being finished, the doctor takes his turn. He shuts himself up with the flock in the sheep-house for at least an hour, after which he permits the profane to enter. He then before them administers to each animal a certain quantity of salt, antimony, and a powder which he says is earth from the land of Egypt: and here his labours end, and he demands his fee. And all this happens in the nineteenth century, and in the midst of the most civilized nation in the world.

(He promises to resume the subject in another letter.)

MONOMANIA IN DOMESTIC ANIMALS—FUROR UTERINUS.

By PROFESSOR RODET.

[Continued from p. 395.]

WE complete the valuable observations of this excellent writer on “Monomania in the Horse,” by giving the substance of his

remarks on the influence of the sexual passion on occasional aberration of mind.

Œstromania, or the desire of sexual connexion become irresistible (*porté jusqu'à la fureur*), is the only case in which the venereal appetite can be considered as constituting true mania either in man or the brute. In the male this œstromania has received the name of *satyriasis*, and in the female that of *nymphomania*, or *furor uterinus*.

I have never observed this kind of mania except in the mare: other authors profess to have seen it in the ass, the cow, the bitch, and the cat. I have never seen it in the male of any of our domestic animals, and therefore I speak of it under the strictly appropriate name of *furor uterinus*.

It has been oftener recognized among animals than the other kinds of mania that have passed under consideration, and many writers have made mention of it in their works. The disease to which Paulet refers, when, quoting from Columella, he speaks of consumption and love madness (*rage d'amour*), and which consists in a rapid emaciation, sometimes observed in mares, when they may be almost seen to fall away, day by day, and perish in a very short space of time, was probably this *furor uterinus*.

Ruel, in his translation of the Greek authors on veterinary medicine in 1530, refers to it, when he curiously advises that the mare shall be led to the border of a limpid stream, where she will be so affected at seeing the state to which she is reduced, that her excitement will calm down and be entirely dissipated.

Vitet places it in the list of spasmodic diseases, and calls it *rage des jumens*, produced by venereal appetite. He says that both the mare and the cow are subject to it.

Aygaleng speaks of it under the name of hysteria, and places it in the class of neuroses, and the order vesaniæ. He says that he has seen bitches and cats attacked by it.

Huzard, jun. speaks of it under the name of *furor uterinus*, in which a kind of insanity was manifest from time to time. In the intervals between the attacks she was perfectly manageable, but during the time of the erythysm, which lasted from one to three days, it was dangerous to go near to her.

Hurtrel D'Arboval treats of it under the name of nymphomania, and as appearing in the mare, the cow, the bitch, and the cat, and being occasionally fatal to petted dogs.

Vatel gives it the name of uteromania, and regards it as inflammation of the brain, or, rather, the cerebellum—consequently an excitation of the sexual parts; and he speaks of some mares and cows that are almost always at heat, and barren. I will add, in this respect, that all veterinarians have observed it in cows

attacked by pulmonary phthisis ; and where the disease has advanced to a certain stage, a more intense and permanent degree of œstrum has appeared, on which the treatment usually adopted with success at other times does not seem to make any impression. I have seen the same thing exist in mares affected with phthisis ; and I should not, perhaps, omit to remark the singular analogy with this which exists in the hospital of Salpêtrière, where half the insane patients die of pulmonary phthisis.

At the end of the summer of 1808, I saw this furor uterinus destroy several mares in our regiment (the 26th Horse Chasseurs) which had recently arrived in Spain, and were not accustomed to the heat of the climate at that season, and to the other new influences under which they were placed. In all these mares, in spite of connexion with the male, and the treatment most appropriate to their state, death speedily followed the development of uteromania. On the contrary, when at Madrid in the following spring, a Prussian mare, belonging to one of the officers, came under treatment, in whom the œstrum was uncontrollable, and reproduced at exceedingly short intervals : they augmented with every connexion with the stallion, and at length she became, as it were, mad and dangerous to approach. This disease, however, which at first seemed to preclude all hope, gradually yielded to restricted diet, frequent bleedings, severe exercise, and repeated plunging into the river. Perhaps the cure was assisted by the frequent administration of a decoction of the white water-lily.

As the existence of this first variety of nymphomania, depending on direct and primitive orgasm of the genital parts, must be admitted by every horseman, I will not longer dwell upon it ; nor on that variety of it, which must also be admitted, viz. a secondary and sympathetic affection, connected with pulmonary phthisis ; but I proceed to shew that it may be associated with and symptomatic of other diseases.

On the 4th of July, 1816, a Prussian mare, eight years old, received an apparently slight kick on the upper part of the forearm. It produced a superficial wound about an inch in length, taking a transverse direction. On the morrow there was considerable enlargement of the wounded part, and heat and tenderness, and also a singular convulsive motion of the muscles of the neighbouring parts, and particularly the arm, the shoulder, and the breast. There was likewise considerable general fever ; and this was soon followed by the manifestation of venereal orgasm, and by a state of œstrum so excessive, that the slightest touch on the loins or croup would produce an abundant emission of thick, yellow viscid fluid.

In spite of treatment, general and local, this state of the wound, and this secondary excitation of the genital organs, continued until the 15th of the same month, when she became perfectly exhausted. She had not lain down since her accident; but she now fell on her litter. An abscess was evidently formed on the inner part of the affected limb, extending from the original wound half way down the leg. It was opened, and a considerable quantity of pus evacuated.

A remission of these violent symptoms now took place, but it did not continue long; for, on the 17th, she evidently suffered acute pain in the originally injured part: there were spasmodic contractions of the limb, and general febrile reaction, and particularly an erythism of the genital organs, violent almost beyond belief.

Among other modes of treatment, we dressed the wounds with tincture of opium, and administered opium internally; but without the slightest benefit.

In the night of the 20th, gangrene began to appear, and the mare died almost suddenly. On opening her, beside the expected lesions in the wounded limb, we found all the internal parts of generation in a state of extreme inflammation and engorgement.

It appears, then, that although furor uterinus is of rarer occurrence in the domestic quadruped than in the human female, it ought to find a place in our nosology; and it should be ranged in the list of maniacal affections, especially when it is complicated with a degree of excitation which is produced by no other cause.

If the facts which I have related, and the conclusions which I have ventured to draw from them, are not sufficient to prove the existence of different kinds of mania in quadrupeds, some physiological considerations may be adduced in confirmation of my opinion. I have reserved these for the latter part of my essay, not only because they appear to me to have great weight, but because they are founded on undoubted facts, and admitted to be so by authors of the highest authority.

M. Gall has demonstrated that, to the exclusion of every other part of the general system, the brain is the source or instrument of every intellectual faculty and moral quality. He has proved that there are in the brain as many separate organs as there are faculties and propensities in the living being; and that, consequently, the variety of dispositions and powers, whether intellectual or instinctive, are in proportion, in different subjects, to the differences and modifications which are found in the development and relative predominance of the various parts of the brain.

Each distinct part of the encephalic mass is the special organ of a distinct faculty, as well moral as intellectual. They are so many species of instincts common to the human being and the brute.

M. Lande maintains that instinct is a feeling, an interior movement, independent of reflection or of the will—an impulse which directs the living being to certain actions without any distinct idea either of the means or the end.

“There are,” says he, “as many instincts as there are fundamental special faculties. Man and all animals have the instinct of propagation; the lion the instinct of destruction; and man and the beaver the instinct of construction. They are not the same organs that determine instincts so opposite, and produce phenomena so different. Each particular effect has, of necessity, its own particular cause. Instinct exists in man as well as in the beast. The word instinct means nothing more than one general power producing the different actions: it is the influence of the different fundamental faculties.

“This mode of expression is so far different from that of the metaphysicians. Instinct is, with them, some occult mysterious power which guides and directs the brute, as the intellect guides the man. They forget that the instinct is the same in each, or differing according to the destiny of each, and that the essential difference between them consists in the degree or power of intellect to control the native instinct.”

It follows, then, that there are in animals a greater or smaller number of faculties or instincts, not all united in the same animal, as in man, but multiplied, or wanting, or complicated in them in proportion to the situation they occupy in the scale of perfection. The lower animals possess but a small number of instincts; some of them may be said to possess only one, or one which is predominant over the rest, and which is characteristic of the animal.

Then, if there is a certain number of these fundamental faculties, *instincts*, implanted in man, these faculties may be occasionally too powerful or too weak—deranged, or, for a while, extinguished—and these different derangements of the natural instincts we designate by the term insanity. Insanity is nothing but a morbid change in those instinctive faculties to which we have given the name of moral and intellectual qualities in ourselves, and which we think peculiar to ourselves. The brute, however, possesses the same faculties; the same moral and intellectual qualities, differing only in degree, according to his wants and his destiny; and they may be altered or perverted by causes more or less analogous; and this alteration or perversion is insanity in

them as well as in man. There is, then, opened to us a new and a rich mine of physiological and pathological research—the perversions of instinct and of intellect in the brute; and it is well worthy of exploration.

THE VETERINARIAN, NOVEMBER 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE middle of November will be a busy period with veterinary instructors and their pupils in the south and in the north. On the 16th, Professor Coleman's Lectures on the Physiology and Pathology of the Horse will commence. The superior talent of that gentleman, his bitterest enemies never dared to deny; nor the tact with which he seizes and illustrates the most interesting points of every subject that comes before him—intelligible to the youngest, and listened to with pleasure by the best informed of his class, and generally leading the majority of them unresistingly to the conclusion to which he wished to bring them. His lectures on the eye, on the foetal circulation, and especially on the foot, will never be forgotten by those who had the good fortune to hear them. If the attention of the student might seem to be a little too exclusively directed to theoretical speculations, this was the character which instruction in a new science—and new it was in England at that time—must of necessity assume. The anatomy and physiology of an animal; the nature, the seat, the cause of disease may be early taught; but a considerable period of time must elapse before the teacher can fully and satisfactorily, because experimentally, speak of the treatment of disease.

In a more familiar, but far more important branch of veterinary tuition—the elucidation of disease and its treatment while the patient is standing by—Professor Coleman was even more successful and useful. The two, and sometimes the three hours which were spent in the college-yard, when the Professor would

courteously listen and give an intelligible answer to every question, and when the instruction that he communicated was stamped upon the memory by the good temper, and joke, and repartee with which it was accompanied ; these are periods which the old pupil likes to recall to memory, for they were hours pleasantly and usefully passed : and the pupil of the present day—if he wants a little more *practical* knowledge of any subject treated of in the lectures, has only to take advantage of these occasional open-air *conversazioni*: he will never meet with any rebuff; the question being a fair one, and the manner not disrespectful, a plain and a kindly-expressed answer will be invariably given.

On the following day, the Assistant Professor's Lectures on *Veterinary Surgery* will commence. This is a most important, and had been a very neglected part of collegiate instruction. However we may equal or excel our continental brethren in the practice of veterinary medicine, we are not yet on a par with them in operative surgery. Mr. Sewell deserves the thanks of the pupil for endeavouring to fill up *this* chasm in the College tuition. A residence of more than thirty years at the College has furnished him with more experience than falls to the lot of most men ; and he has identified himself with this branch of veterinary education, not only by the introduction of various improvements in the treatment of certain diseases, and the performance of certain operations, but by reviving and improving, and basing on a foundation never to be shaken, the noble one of neurotomy. Passing by certain points on which the opinion of the writer of this article has been formerly expressed, but never in a manner intentionally offensive, he has no hesitation in saying, that he regards the introduction of a course of lectures on veterinary surgery, and confined to that scope (and as wide an one it is as any professor could wish) as one of the greatest improvements that has taken place at the Royal Veterinary College for many a year. That student will be wanting in respect to one of his instructors, and unmindful of his own benefit, who neglects to attend on them.

In the daily clinical rounds at the College, the pupils will de-

rive much pleasure, and a very useful lesson, from observing the readiness with which the Assistant Professor detects the slightest possible lameness, and refers it to its proper situation and cause. This is a tact cheaply bought at any expenditure of time and attention.

Another very great improvement has taken place, within a few years, at the Veterinary College, viz.; the establishment of a course of Chemical Lectures, by the Dispenser, Mr. Morton; and including not merely a history of substances and drugs—not merely a luminous detail of the general principles of chemistry—but a diligent application of these to the business of the pupil, veterinary medicine and pharmacy. A long residence at the College has rendered Mr. Morton well acquainted with the medicinal agents resorted to by the Professors in the cases which come before them, and the change or modification of these agents, according to the progress or change of the disease. This is the foundation of a veterinary materia medica, which only a gentleman who had possessed such opportunities could efficiently teach. And when to this he adds an outline of Botany, as enabling the student to recognize and make himself acquainted with the natural history of several of the medicaments employed; and, yet more, when the lecturer adds a kind of summary of the bearing of chemistry on the principles and the practice of agriculture, thus fitting the veterinary surgeon, by and by, to meet his employer on higher ground, to identify himself more fully with him, and to be more eminently useful to him—such a lecturer deserves, and he will have, the attendance and confidence of every student who is anxious to do justice to himself. Mr. Morton lectures in the College on every Monday, Wednesday, and Friday evening, at seven o'clock.

There is a duty far too much neglected—a neatness and expertness in performing the various operations and manipulations about the feet. The sons of practitioners will come already instructed in these things; but they who have not had this previous advantage, and a great one it is, should spend a certain time every day in the forge. Stripped, and with apron on, they should not be satisfied until they are able to take off, and put on

a shoe—to pare out a foot in the common way—to pare it out in the various ways which different states of the foot require—to adapt the shoe, or to direct the adaptation of it, to every case ; in short, to be able, and it will sometimes be required, to be their own farrier, and as clever in the handling of their tools as any of their men. He who starts with the fairest pecuniary or other prospects will not degrade himself by this ; but he who, actuated by false pride, is deficient here, will often expose himself to serious inconvenience, and occasionally to derision and contempt, when he becomes settled in the world. A gratuity to the foreman of the forge, with a view to occasional direction, and some little but important facilities which he may be able to render the pupil, will be money very wisely and profitably spent.

In the same street with the College, and not two hundred yards above it, Mr. Spooner has established a most efficient school of veterinary anatomy. This gentleman is well known as one of the best veterinary anatomists, perhaps the best, of which the profession can, at the present day, boast. He has a convenient dissecting-room, in which he constantly superintends the researches of his pupils ; and he gives daily lectures on, or demonstrations of, the structure, external and internal, of the horse principally, and also of the viscera of the ox, and of all peculiarities of structure in cattle, sheep, and dogs. There is a method, a tangibility, a clearness in all that he says and does, which is of essential advantage to the student, and without which his time and attention are completely thrown away. Mr. Spooner, also, has frequent examinations of his class, preparatory to the important ordeal which the pupil has finally to undergo. This school is also a most important addition to the facilities which the veterinary pupil now possesses. It may be added, that both Mr. Morton and Mr. Spooner receive pupils into their houses, on moderate terms, to board and lodge. It is scarcely necessary to hint at the advantages which young men would possess under their immediate superintendence and guidance.

The lectures on veterinary medicine at the University of London will also be resumed on the evening of the 16th of November, and with the hope and prospect that extreme ill health will not

again interfere with the completion of the course. The subject of these lectures will be the nature, symptoms, causes, treatment, and usual result of the *diseases of all domesticated animals*, as modified by the structure, locality, force, habits, and destiny of each. Considering the instruction which the veterinary pupil receives on the diseases of the horse in the College of St. Pancras, and the works of the most talented veterinarians, the sketch of that animal, although faithful, will be brief; and cattle, sheep, swine, and dogs, will be the prominent objects of attention. The pathology of these animals will be rendered as complete as the lecturer can make it, while each will be advantageously illustrated by immediate comparison with the rest. A very rapid glance, however, may occasionally be directed to other patients, native or wild, whose diseases the lecturer has had opportunity of closely observing.

At present these lectures will be primarily directed to the improvement of the *veterinary pupil*, and will be studiously adapted to his situation and wishes and wants: they will, with the exceptions just alluded to, essentially be what they have hitherto been. But the lecturer does not deny that they are offered as a first but humble attempt at that course of instruction which the veterinary surgeon alone can give, and which will eventually be acknowledged as of paramount importance to the *medical*, as well as the veterinary student—COMPARATIVE PATHOLOGY.

It is interesting to both to observe how the structure of a certain organ is varied in different animals, according to their food and their destiny, in order that the perfect function of that organ may be secured in each. These are admirable elucidations of the wisdom and the benevolence of Him who made all. These inquiries, also, cannot fail of giving the student more extended and satisfactory views of the nature of the function, the influence of structure, and of external and internal circumstances upon it, and, in fact, every thing by which it is affected, deteriorated, perfected. Therefore it is that in all schools of human medicine, comparative anatomy and comparative physiology are so sedulously taught. In proportion as the base is widened and deepened will be the extent and durability of the projected structure.

But, after all, these inquiries are merely means to an end. They are delightful while pursued; they lead to the habitual observation of nature; they shew it in its most perfect form; they unfold the principles of health; but they leave us to guess, and often wildly, at that which is the especial object of our profession—the cause of disease, and the means by which it may be alleviated. The comparative anatomist and physiologist sees all these things in health, and he is delighted, instructed; the comparative pathologist sees them in disease, and traces the varied influence of a thousand agents in producing and modifying this disease, and all varying with the structure and food and habits of the animal. He can form some happy guesses in the first place; he can come to some determinate conclusion in the other. Therefore it is that a new name has been given to this course; that it has been placed in a new point of view; and, when the subject is in abler hands, and a little more of the prejudice against the attendant on the quadruped patient is passed away, the advantage of such a course of instruction will be universally acknowledged. The present lecturer may not live to see the day, but it is approaching, when the study of comparative pathology will be considered as an essential part of the study of the human surgeon; and when the veterinary practitioner, for on him the task will fall, will be able to return, in the best of all ways, the obligation he owes, and which he will never forget, to those by whose fostering care his humbler art was nursed into existence.

The diseases of the respective animals will still be classed according to the various systems of which the frame may be considered to be composed. The whole of the lectures on the respiratory system having been already inserted in *THE VETERINARIAN*, and likewise those of the sensorial system, almost to the conclusion of the diseases of the nerves of voluntary motion,—these will not be repeated, but the subject will be taken up at this point. The diseases connected with a deficient supply of nervous power will be first considered; then those of the nerves of sensation, or affecting the organs of sense; and, last of all, those which are chiefly referrible to the organic sys-

tem. Almost first among these, and the most interesting of all, rabies will demand attention. To the sensorial system will succeed the digestive, the circulatory, the secernent, the absorbent, the generative, the locomotive, and the integumental; and in them will be found matter more than enough for the whole course. The lectures will be delivered on each Monday, Wednesday, and Friday afternoon, at five o'clock.

About the middle of November, the able and indefatigable Professor of the Edinburgh School will commence his course of lectures. They will embrace the anatomy, physiology, and diseases of all domesticated animals. Notwithstanding his extensive practice, so ardent is he in the cause in which he has embarked, that, after lecturing until the middle of January three times in the week, besides a long and close examination lecture on the Saturday, he then begins to appear before his pupils four times in the week, and after the middle of February five times, besides the Saturday's most important of all his intercourses with them.

For the sake of his class, Mr. Dick practises gratuitously on the horses and cattle of the poor. It is only for the owner to say that he *is* poor, and the animal is carefully attended to; and if lessons of particular value are likely to arise out of the case, it is admitted into the infirmary. The most trustworthy and assiduous of his class have always some of these patients committed to them, subject to his direction and inspection; so that their practice commences, and in the most advantageous way, at an early period. And when the Professor returns in the evening, however fatigued he may be, he is always ready to listen to the reports of his young deputies, and suggest many a useful hint, and warn from many a dangerous error.

Mr. Dick's pupils have gratuitous admission to lectures on chemistry, and, in fact, to those on every branch of medical science.

The manner in which Mr. Dick's school is identified with the Highland Society of Scotland, and by means of which every scientific veterinarian is also identified with the agricultural association of the district in which he lives, is deserving of

peculiar notice and commendation. This is placing our art where it should be—it is made a component part of the agriculture of the country; and where this relation is acknowledged, the advantage is and must be mutual.

And now, having introduced the pupils to their respective instructors, this leading article shall conclude by reminding them of the value of the little time they have to spare for the acquisition of a great deal of important knowledge, and by entreating them to identify themselves with the growing reputation of their art, and to prepare themselves for assuming, and at no distant period, that situation which they ought to occupy in the agricultural, the medical, and the scientific world.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Traité Élémentaire de Matière Médicale et Pharmacologie Vétérinaire : par M. Moiroud. Paris, 1831.

[Continued from vol. vi, p. 619.]

[We had discontinued the analysis of this work, because we were fearful that we were growing tedious; but at the request of several of our correspondents we will resume it. It is somewhat interesting to become acquainted with the medicaments which our continental neighbours employ, and to trace sometimes their agreement, and, at other times, the strange contrariety of opinion between us and them as to the effects which they produce. We frequently smile, but we do occasionally gain a useful lesson.]

DIURETIC SUBSTANCES BELONGING TO THE VEGETABLE KINGDOM.

SQUILLS.—This drug acts locally, after the manner of the most energetic irritating substances, especially when administered in a state of powder; it then produces in the dog vomiting and purging, and, if the quantity employed is considerable, it causes difficulty of breathing, congestion of blood in the head, and, consequently, vertigo, convulsions, and death. Applied to the cellular tissue in doses of thirty grains, it produces death in about twenty hours.

Administered, however, in a moderate dose, its influence is directed to the urinary passages, whose functions it increases to a remarkable degree; it also has a stimulating effect on the mucous membranes, and principally on those that line the air passages. It is on account of this double influence that squills are often employed in dropsy exhibiting no symptoms of irritation, and also in chronic pulmonary catarrh. In the form of powder it is given, in doses of about an ounce to large animals, and of half a drachm to smaller ones. It is administered most advantageously in those preparations in which the principle of the squill is dissolved and fixed, as the vinegar, the oxymel, and the wine of squills. Sometimes it is applied in the way of friction.

COLCHICUM.—Every part of the colchicum is acrid and poisonous. It is recorded in the *Journal Pratique* for 1826, that twelve cows to which the leaves and the bulbs of the colchicum had been given as food, and each of which had eaten about four or five pounds, became all at once dull and uneasy; rumination ceased; the milk diminished; there was dryness of the muzzle and of the skin; foaming at the mouth; the eyes dull, sunken, and full of tears; the conjunctiva pale, the respiration short and painful, with a plaintive sound; local pains, inducing the animals to look often at their flanks and sigh; violent diarrhoea, foetid, and mingled with streaks of blood; tenesmus; the ears and the base of the horn cold. This state continued during many days, and three of the animals died.

On examination after death there were traces of violent inflammation in the fourth stomach, and in the intestines; the peritoneum and mesentery partook of this inflammation; and the neck of the bladder was red and enlarged.

The *Recueil de Médecine Vétérinaire* makes mention of the poisoning of some pigs which ate of this plant.

Employed as a medicine, it produces both purgation and diuresis, and is indicated in anasarca and dropsy accompanied by debility. It should be administered to animals in the form of infusion in wine, vinegar, or oxymel. It may be given in doses of from one to two drachms for large animals, and from six to eight grains for small ones.

TURPENTINE.—The turpentine act on the animal economy as stimulants. Applied externally they produce slight irritation of the skin, and thus favour the resolution of chronic swellings. Introduced into the digestive canal, they sometimes excite the mucous membrane, and produce purging; but, once taken by the absorbents into the circulation, they escape with the urine, and modify the secretion of that fluid. They produce a decided

violet odour, and part of them escape unchanged with the urine. I have had experience of this double phenomenon in many horses to which the enormous doses of ten or twelve ounces of turpentine have been given during several successive days.

In the opinion of many practitioners, it has a tonic influence on the mucous membranes of the urinary and respiratory passages; therefore, it is employed in chronic catarrh of those parts. It has completely failed as a remedy for glanders.

The best way of administering it internally is to mix it with honey or treacle, or the yolk of eggs; the dose for large animals being from two to four ounces.

Turpentine is oftener indicated for external than for internal use: it is employed to resolve tumours, or to strengthen parts, either alone or combined with other drugs. United with honey, or the yolk of an egg, it forms a kind of ointment called digestive; combined with corrosive sublimate, it makes a soft plaister, which may be applied over chronic and indolent swellings of every kind, and generally with very great success.

THE OIL OR SPIRIT OF TURPENTINE is one of the most powerful stimulants, particularly with regard to the horse. Administered internally it acts in the same manner as the substance from which it is obtained; but it is more acrid, and often produces intense inflammation of the urinary passages. Applied on the skin or the cellular tissue, it causes an irritation yet more active, and very considerable pain; it speedily produces its effect, and that effect almost as speedily subsides. In order to subdue the irritability which it has excited, it is often merely necessary to lead the animal about for a little while. It is used externally as a friction for indolent swellings and bony and synovial tumours. It is applied over parts affected with chronic rheumatism or atrophy; or, in general, wherever it is necessary to rouse the sensibility and the interstitial absorption. It has, however, this inconvenience, that it sometimes produces cracks in the skin, and takes off the hair. To prevent these effects it is often mixed with oil, or spirit, or vinegar. It is necessary to be very careful in the employment of it on thin-skinned or irritable horses. Bourgelat recommends it only for slight frictions on the inferior parts of the extremities; but he expressly excepts the case of founder, in which he says that frictions round the coronet produce inflammation, which is soon followed by resolution.

Although employed inconsiderately by farriers in the healing of wounds of various characters, it is very useful where gangrene has commenced, or where the granulations are pale and unhealthy. Mixed with a small quantity of digestive ointment, or

basilicon, it increases their activity, and renders them a proper application to setons, &c. when the suppuration diminishes. It is often used for this purpose in its state of purity, to moisten the cords of the seton. It has also the advantage of bringing more speedily forward inflammatory swellings, and producing pus, more laudable, and in a greater quantity, than will follow the application of cantharides; nevertheless, the general irritation which it causes should induce us to avoid it whenever there exists an acute inflammation, the danger of which every active irritant will increase.

The spirit of turpentine has been celebrated as a vermifuge, and chiefly as expelling the tape-worm. We may readily believe this, when we recollect this medicine is not decomposed in the stomach, but enters almost unchanged into the intestinal canal.

TAR acts internally as a vermifuge. Applied externally to parts affected with mange, it almost always cures them. It forms, while drying, a kind of scab, which, at the expiration of some days, detaches itself, and leaves the skin underneath supple, white, and perfectly sound. It is principally on the horse that it produces this effect. In order, however, to render it more useful for this purpose, it is necessary to associate it with some other substances capable of mitigating its irritating properties, while, at the same time, its power for the cure of mange may be preserved. This is especially requisite when it is necessary to spread it over a large surface. Equal parts of soft soap and tar will be a very effectual application.

COPAIBA.—This stimulates the intestinal and the urinary passages. It has, like other medicaments of this nature, the property of modifying and lessening irritability of that membrane; and is therefore used in chronic discharges. It is seldom given to large animals, but often administered to the dog when he has a supposed gonorrheal discharge from the penis. I have given it for a long time, but without success, to horses with glanders.

It may be administered in the form of drink, suspended in some aqueous vehicle; or in that of a ball associated with other substances that are supposed to have a similar effect. The dose for the larger animals would be from two to four ounces; and from half a drachm to a drachm for the smaller ones.

As for diuretic medicines drawn from the animal kingdom, I know but of two, the UREA, or principle of the urine, but which has never been employed, so far as I am aware, in veterinary medicine; and CANTHARIDES. The action of the Spanish fly is not, perhaps, well understood: its influence is not on the

secretion of urine, but on the mucous membrane of the bladder. It irritates that organ, and provokes it to the more frequent expulsion of urine; but, in doing this, it may possibly be doing considerable mischief.

FOURTH CLASS OF SPECIAL IRRITANTS,

THOSE WHICH ACT ON THE UTERUS, AND PROVOKE ITS CONTRACTION.

That there are substances which have this effect, no practitioner can doubt; and they may be employed by the veterinarian in cases of retarded or difficult parturition, depending on a sluggish action of the uterus, or exhaustion of its energy, or general debility. In every other case its employment will be irrational and dangerous.

RUE, given in moderate doses, not only acts as a general stimulant, but has a specific influence on the uterus. When it is given in large doses it is apt to produce inflammation of the alimentary canal. It may be infused in water, or in any fermented liquor; or given in a state of powder, and mixed with honey. For the larger animals, the dose varies from two to six ounces; and from two to four drachms for the smaller ones.

Rue is also an antispasmodic, and has considerable power as a vermifuge.

SAVINE.—This vegetable acts on the animal economy in the same way as rue, and fulfills the same indications; but its action is more intense and durable. It must be administered with caution, and in very small doses. Reduced to powder, it is sometimes employed as a stimulant to old and indolent ulcers. It is both detersive and antiseptic. It enters into the composition of various powders, cordial, stomachic, and vermifuge.

SAFFRON.—The first action of this vegetable is on the stomach, and, confined to that viscus, and if given in quantities not exceeding half a drachm or a drachm for the larger animals, it recalls the appetite, and promotes digestion. If the dose is increased to an ounce, it has an immediate effect on the womb; it allays all unnatural spasmodic action, but arouses it to its natural and powerful contraction. It is used externally to allay irritation in inflammation of the eyes and other delicate parts. It should be given in the form of infusion or tincture, and is often advantageously combined with opium, camphor, or valerian.

The ERGOT OF RYE, although when taken in a considerable quantity it is a virulent poison, is a most useful medicine in the hands of the veterinarian. When given to the female of almost

every quadruped, whose parturition is delayed by reason of the suspension of uterine action, it rouses that viscus to more than natural contraction, and effects the expulsion of the fœtus. It should be pulverised and suspended in some fluid. Its power is considerably weakened when an infusion of it is made. The proper dose is an ounce for a mare or a cow, and a drachm for a ewe or large bitch : and this quantity should be given once or twice in the day. In order to preserve the full virtue of the ergot, it is necessary to keep it in closed bottles from contact with the atmospheric air ; never to use it when more than a year old ; and, also, not to pulverize it until it is wanted.

VETERINARY CLUB.

[The wish and advice of partial friends must be pleaded as an excuse, if excuse be wanted, for the insertion of this little story. The greater part of it was furnished by one of them.]

THE last quarterly meeting of the club was marked by a fuller attendance than usual, it being preconcerted on the part of the members, that on this occasion, their Treasurer and Secretary, Mr. Youatt, should be presented with a silver salver, already prepared and engraved with an appropriate inscription. There were present, Messrs. King, sen. and jun. ; John and William Field, Goodwin, Langworthy, J. Turner, Henderson, Percivall, and Youatt : indeed, with the exception of Mr. Thomas Turner, whose absence was unavoidable, no member was found missing on the occasion. There were also three visitors, Messrs. Best, Harrison, and Ainslie.

On the removal of the cloth, the salver (value 20 guineas), was placed upon the table, in front of the chairman, Mr. Goodwin. Mr. Percivall, who sat on his left, then rose, and addressed Mr. Youatt as follows :—

“ Mr. Treasurer and Secretary,—I rise for the purpose of acquainting you, it is the desire of the members of this club, that I present you, in their name, with the salver I now hold in my hand ; no less as a mark of the respect and esteem they entertain for you, than from a conviction that you have all along paid great and unremitting attention to the concerns of the club. I believe I am correct when I state, that the present club owes its origin to you ; and I feel sure I am when I add, that, so much is it indebted to you for its support, that but for you I hardly know whether we should be found around this table at the pre-

sent hour. I feel confident there is no member but what, as well as myself, has derived much pleasure and gratification from the club: nay, I feel justified in taking up higher ground than this, and in regarding the club as a society of no mean importance in the veterinary hemisphere. Indeed, when we come to look about us, and reflect upon the present condition of our profession—what a motley, spotted congregation we are—our little club cannot fail to be a source of peculiar gratification to its members. I would denominate it a little focal body, around which, in times present and in times to come, may collect much of the talent and genius, and much of that which is estimable and good in our profession.

“To Mr. Youatt must be awarded the chief praise of having kept us in existence to the present hour. And, in return, I can only wish him the same gratification in receiving our present as we feel in making it. I will conclude with proposing the health of our worthy Secretary, as well as that of all his family; hoping they may ever look upon the salver as an honourable testimonial of their father’s merit. Mr. Youatt, and family! if you please, gentlemen, with three times three.”

The enthusiastic plaudits with which this toast was drunk having subsided, and the company again being quietly seated, Mr. Youatt, evidently much affected—being taken by surprise by what had passed—rose from his seat, and addressed the company to the following effect:—

“Mr. Chairman, Gentlemen,—Believe me, I am utterly incapable of expressing what I feel at the present moment. You say, that to an humble individual like me the Veterinary Club owes its existence. Not so. I can recollect various conversations with several of my friends around me, respecting the possibility of establishing such a society; and, naturally ardent, and sometimes a little presuming, I may have entered into the subject as warmly as any of you, and may have worked as honestly in the accomplishment of our purpose. For you felt, and I felt, that the ordinary pleasures of social intercourse would, in such a circle, be heightened, we hardly then dared to calculate how much, by the sympathy which each would feel in the pursuits of the rest. We were also assured that none but the best of our profession would dare to enter such a circle—none who were afraid to meet their fellows in the searching, but with us always friendly war of words—not one who had anything dishonourable in his practice or his heart—not one who could, except under some transient impulse, and which left not a trace behind, have an unfriendly feeling towards any whom he meets here.

“We succeeded, and here we are. I will not say that we em-

body all that is good in our profession in this neighbourhood. There are other practitioners, skilful and honourable—and whom we should like to lure to our club ; but this I will say, that, putting him who is now addressing you out of the question, there is no profession that in the same space, and out of the same numbers, could collect together a set of men superior in talent, information, honour, and kindly feeling,

“ You conferred on me the honourable title of your Secretary. The duties which that office exacted—why they were so many pleasures. With you I have spent some of the happiest, and some of the most useful hours of my existence ; for pleasure and professional and general improvement were always blended here. The office which I held among you, brought me into more frequent and closer contact with you all ; and I wish I could tell you, just as I feel it, how soon, when my mind might have been somewhat ill at ease from causes that concern not you, every cloud dispersed when I saw you, and what delight your warm and honest welcome imparted.

“ Gentlemen, I thankfully accept the elegant present you have placed before me ; not as a remuneration for services rendered, but as you, through the medium of my valued friend, have kindly expressed it, a testimony of your friendship—I proudly add, your esteem. As such I shall ever prize it—as such, never fear, it shall descend as an heir-loom to those I love. And they, too, will prize it. They will hereafter speak of those who, in their day, were ornaments to the veterinary profession—with whom their father associated, and of whose friendship for him this was a pledge. Gentlemen, once more I thank you.

Miscellanea.

OLD MODES OF VETERINARY TREATMENT.

[From Gervase Markham's " Cheap and Good Husbandry 1648."]

Frenzie, or Staggers.

LET the horse blood in the neck, three mornings together, and every morning to take a great quantity ; then, after each morning blood-letting, give the horse this drink. Take a quart of ale, and boil it with a big white bread crust ; then take it from the fire and dissolve three or four spoonfuls of honey in it. When lukewarm, give it the horse to drink, and cover his tem-

ples over with a plaster of pitch, and keep his head exceedingly warm : let his meat be little, and his stable dark.

Cold, or Cough.

A COLD is got by unnaturall heats and too suddain coolings ; and these colds engender coughs, and these coughs putrefaction or rottennesse of the lungs. The cure, therefore, for them all, in general, is, to take a handfull or two of the white and greenish mosse which growes upon an old oke-pole, or any old oke wood, and boil it in a quart of milk until it be thick, and, being cold, turned to jelly ; then straine it, and give it to the horse lukewarme every morning till his cough end : or else take $\frac{3}{4}$ oz. of the conserve of elicampane, and dissolve it in a pint of sack, and, lukewarm, give it to the horse fasting. Then ride him after it, and set him up warm.

Glanders.

TAKE of auripigmentum two drams, of tussaliginis made into powder as much ; then mixing them together with turpentine 'till they be like paste, and making thereof little cakes, dry them before the fire. Then take a chafing dish and coales, and laying one or two of the cakes thereon, cover them with a tunnel, and then, the smoke rising, put the tunnel into the horse's nostrils, and let the smoak go up into his head, which done, ride the horse till he sweat. Do thus once every morning before he be watered, till the running at his nostrils cease, and the kirkels under his chops wear away.

Of tyred Horses.

IF your horse be tyred, either in journeying or any hunting match, your best help for him is, to give him warm urine to drink, and, letting him blood in the mouth, to suffer him to lick up and swallow the same. Then, if you can come where any nettles are, to rub his mouth and sheath well therewith, then gently to ride him till you come to your resting-place, where set him up very warm. Before you go to bed, give him six spoonfuls of aqua vitæ to drink, and as much provender as he will eat. The next morning rub his legs with sheep's-foot oyl, and it will bring fresh nimbleness into his sinews.

The Yellows.

From the overflowing of the gal, or rather want of the gal, spring many mortal diseases, especially the yellows, which is an extream faint mortal sicknesse, if it be not prevented in time.

The signs are yellownesse of the eies and skin, a sudden and faint falling down by the high-way, or in the stable, and an universal sweat over all the body. The cure is, first to let the horse blood in the necke, in the mouth, and under the eies : then take twopennyworth of saffron, which, being dried and made into fine powder, mixe with sweet butter, and in manner of a pill give it in balls to the horse three mornings together. Let his drink be warm, and his hay sprinkled with water.

Of the Sicknesse of the Spleen.

The spleen, which is the vessel of melancholly, when it is overcharged therewith, grows painful, hard, and great; in such sort, that sometimes it is visible. The signs to know it, is much groaning, hasty feeding, and a continual looking to his left side only. The cure is, take agrimony, and boil a good quantity of it in the water which the horse shall drink; and, chopping the leaves small, mix them very well with sweet May butter, and give the horse two or three good round balls thereof in the manner of pills.

Of the Vives.

For the vives, which is an inflammation of the kernels between the chap and the neck of the horse, take pepper one pennyworth, swine's grease one spoonful, the juyce of a handfull of rew, and vinegar two spoonfuls, mixe them together, and then put it equally into both the horse's ears, and then tie them up with two flat laces; then shake the ears that the medicine may go down; which done, let the horse blood in the neck, and in the temple veines, and it is a certain cure.

Strangle.

Take southernwood, and dry it to powder, and with barley-meal, and the yolk of an egge, make it into a salve, and lay it to the impostume, and it will ripen it, break it, and heal it.

Splent.

Upon the top of the excression make a slit with your knife, the length of a barley-corn, or a little more; and then with a fine cornet raise the skin from the bone, and hollow the compass of the excression. Then take a little lint, and dip it into the oyl of origanum, and thrust it into the holes, and cover the knob, and so let it bridle till you see it rot, and that nature casteth out both the medicine and the cure. As for the Ring-bone, you shall need to scarifie and annoint it with the oyle only.

Stringhalt.

This is an unnatural binding of the sinews, which imperfection a horse bringeth into the world with him, and therefore it is certain it is incurable, and not painful, but only an eye-sore; yet the best way to keep it from worse inconvenience is to bathe his limbs with a decoction of coleworts.

HORSE-RACING IN AMERICA.

VERY striking and amusing scenes may be witnessed upon a Charleston race-course. I remember being present at the running of a famous match between a Virginian and South Carolina horse. The two first heats were won by the Virginian, and the two last by the favourite of South Carolina, whose name, I recollect, was Bertram. The interest always attendant upon a good horse-race was increased to intensity by the feeling of state rivalry prevalent all over the union, and which is called forth in its full strength on such occasion. Many a dirk was grasped and fierce threat uttered. At last the South Carolina horse came up victorious, and the scene which followed recalled to my mind Gibbon's account of the Blue and Green factions of Constantinople, when the triumph of a political party depended upon the speed of a horse. Ever since, the horse-races in England have appeared to me to be very tame affairs indeed. I was in New York at the time of the match between Henry and Eclipse; between the north and south, which is well remembered by many as evidencing the existence of a spirit of rivalry by no means favourable to the future permanence of the federal union.—*Whittaker's Monthly Magazine.*

TURCUMAN SHOEING.

THE value of a good horse in Turcuman is from four to fifteen dollars. The price of a set of shoes nine dollars, thirty-six shillings—a sum that will purchase a horse of moderate qualification. A German Baron paid twelve dollars (£2..8s) for a spirited long-backed, long-legged, long-tailed, grey. He gave orders to have the fore-feet only shod, and to his utter astonishment the charge for the pair of shoes was four dollars and a half (eighteen shillings)! a price at which a tolerable horse might be purchased. The Baron thought it extremely hard that he should be charged more than one-third of the *whole* value of his horse for only *half* shoeing, and told the smith, in very good German-Spanish, what he afterwards told me in very good German-English, that “he could shod get in his country all four horse feet *für sechzehn groschen.*” The smith, smoking his cigar, calmly replied, “that he was at full liberty to take his horse to Germany; but if he required that operation to be performed in Turcuman, he must pay four dollars and a half, or go without—‘*no hai remedis.*’”

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MR. YOUATT'S LECTURES ON VETERINARY MEDICINE
AND ANIMAL PATHOLOGY;

DELIVERED AT THE UNIVERSITY OF LONDON.

LECTURE LI.

Palsy in the Horse.

DEFINITION.—Having considered the various diseases which are referrible to an unnaturally increased supply of nervous agency—whether considered as flowing in a continuous rapid stream, and to many muscles or sets of muscles, as in *Tetanus*—or still flowing rapidly, and to many parts, but with certain remissions or pauses, as in *Epilepsy*—or the stream, although continuous and rapid, confined to one muscle or set of muscles, as in *Cramp*—or passing on in a succession of waves or impulses, as in *Chorea*—and all these perfectly independent of the will; or some involuntary impulse being added to and interfering with strict obedience to the mandate of the will, as in *Stringhalt*,—we proceed to maladies of a different character, and connected with the partial or total suspension of nervous influence, as in *Palsy*. Strictly speaking, palsy means a diminution or a suspension of the influence of the nervous system whether sensitive or motor—a loss or diminution of feeling, as well as of the power of action; but as I have, hitherto, been speaking only of the inferior superficies of the spinal chord and the motor columns, my attention will, at present, be confined to the diminution of action, and that as resulting not from various mechanical causes, as the contraction of tendons, or the ossification of ligaments, but the want of nervous energy—a disease, not of the part to be stimulated, but a partial or total absence of the stimulus.

Every action implies two things—the stimulus, and the power of being stimulated: the irritability—the symptom, the essence of animal and organic life—we suppose in every case to remain;

but the agent in the present case, the nervous influence from the brain or spinal chord, is diminished or withdrawn. We can produce an artificial palsy whenever we please ; we have but to divide the nerve which goes to a certain muscle or limb, and the power of motion ceases below the division.

General Palsy—Human Being.—The human practitioner distinguishes between general and local palsy. In the first case, the whole body, every organ of motion and of sense, is paralyzed. This is evidently an affection of the brain ; the communication between it and the spinal chord is cut off : but the man lives for a while, and for a long while too, because the principle, and the agents, and the functions of organic life, whether arising from the lateral column of the spinal chord, or from the superior cervical ganglion, are, except by anastomosis, independent of the brain. How dreadful must be the state of such a being !—he can eat, and digest, and even speak ; but he can neither see, nor hear, nor smell, nor feel. Dr. Todd relates a case of this. The patient was shut out from all communication with his family and his children, yet his speech and intellects were unimpaired. It was, after a while, accidentally discovered that a small patch on the right cheek retained its sensibility ; and, by tracing letters on this spot, his wife and children were enabled to maintain some intercourse of ideas with him : at length, the palsy began to pervade the system of organic life, and he rapidly sunk, and died in a way dreadful to think of.

Quadruped.—Of this kind of palsy our practice affords us no instance ; at least I never saw a case of it. Perhaps we shall not find much difficulty in accounting for this, if we consider the comparative difference in the bulk of the brain in the human being and the quadruped. In man the brain may perhaps be averaged at one thirty-fifth part of the weight of his body. In the intellectual dog, it can be rated at little more than the one hundred and sixtieth part. In the horse it is one four-hundredth part only ; and in the ox one eight hundred and sixtieth. Supposing, therefore, that the bulk of the spinal chord in the brute bore the same proportion to that of the frame generally, we could with difficulty believe that this paramount influence—the whole function of the spinal chord—could be suspended and abolished by any cerebral affection or influence ; at least, the occurrence of this must be rare indeed. But it so happens that the spinal chord, and especially the inferior or motor surface of it, is, compared with the bulk of the animal, very much more developed in the quadruped than in the biped. The brain of the horse is smaller than that of man ; the spinal chord is considerably larger. The principle of intellect is developed in the

one ; the other is formed with reference to muscular strength and endurance alone.

PARTIAL PARALYSIS.—Of these cases we have plenty in all our patients, and most untractable ones they are : sometimes they are fatal. An old pupil and valued friend of mine, Mr. Chapman, who kindly conducted my business for me when I was ill, was sent for, in order to examine a horse. The symptoms were, heat of mouth, heaving at the flanks, a hard and quick pulse, and the exhibition of great pain. As he stood by his side and looked at him, he observed some slight spasms of the shoulder, and extending along the side. He naturally concluded that it was a case of pleurisy, and he bled the animal and gave fever medicine.

On calling a few hours afterwards, he found the horse in still greater pain, and his left leg was becoming powerless. The horse could not bear upon it, and he shrunk at the slightest touch. (There is a strange caprice about this. In many cases there is palsy of the sensitive as well as the motor nerves ; at other times the natural feeling remains, although the power of motion is lost : occasionally the sensibility is increased to an almost inconceivable degree : but generally both nerves are gradually involved, and share in the same loss of power.)

He soon after this fell, and beat himself dreadfully about. My young friend began to understand the case : again he ordered the limb to be frequently fomented, he rubbed in a stimulating liniment all over it, and he gave a strong dose of physic. On the following day he began to give opium and spirit of nitrous ether.

The horse had been previously set on his legs with a great deal of difficulty ; he stood continually shifting his position, so far as he could do it with his hind feet, and trying in vain to rest a little of his weight on the affected limb. At length the power of the other leg began to fail, and he again fell down, and, unless forcibly held down, beat his head about, and fought and scrambled with his hind feet. He survived until the fifth day after the attack.

On examining him after death, there was scarcely any thoracic or abdominal lesion, but there was spinal disease from the fifth to the seventh dorsal vertebra. The membranes of the chord were inflamed, the ligamentum denticulatum very much so ; the inferior columns were pulpy, and the fluid in the central canal was black. The superior and lateral columns presented no lesion.

I scarcely know a plainer and more interesting case of inflammation of the spinal chord and its membranes, and the paralytic affection consequent on this. It is only deficient in one particular,

and one which no inquiry could supply, What was the cause of the spinal affection?

HEMIPLEGIA AND PARAPLEGIA.—The human practitioner has yet another distinction, hemiplegia and paraplegia. In the former the affection is confined to one side of the patient: it occupies, as it were, one half of the chord. In paraplegia the posterior lower extremity on both sides is affected.

Cases of Hemiplegia.—Few cases of hemiplegia occur in our patients. Old Gibson relates some cases of it. If you should chance to see his work on farriery on any bookstall, it is worth your purchase. There is a great deal of what would yet be considered as good matter in it. He describes it as an epidemic in his time.

Girard describes what he supposes to be a case of it, but respecting which I have some doubt. It looks to me a great deal more like rabies. "A horse fell while at work. He was raised with much difficulty, and was found to be powerless on the left side—feeling, however, remained: the left nostril was closed, the eye was also closed and ulcerated. Hay was offered to him; he seized it with the right side of his lips; he opened his mouth strangely wide in order to get it to his grinders, but he could not masticate it, for all of it presently accumulated between the left molars and the cheek. Oats he could not get at all into his mouth. In order to drink, he plunged his muzzle in the water up to the commissures of his lips, and then sucked up a little of the fluid slowly, and with difficulty. He however had evidently the sense of smell in his left nostril.

The palsy was not perfect on that side, for he could walk, although with a great deal of difficulty. His left legs trembled under him as they were dragged after him; and if he was turned, and a little too sharply, on the left side, he fell, but scrambled up again with great difficulty. He continued in this state six days, and died. The grey substance of the brain was a little more injected than usual, and there was a slight injection in the left corpus striatum, on the pons varolii, and in the cerebellum, and all on the left side.

M. Vigney relates another case in which a cure was effected by repeated bleeding and purging. In fact, these cases appear to be more manageable than those of paraplegia; but if the affection is not removed, it usually degenerates into paraplegia before the death of the animal.

Why not hemiplegia in the horse? It would appear singular that this should be the most common form of palsy in the human being, and so rarely seen in the quadruped, were it not for the considerations already stated. It commonly follows apoplexy;

but the horse, except from some visit to the oat-bin, or other as gross mismanagement, is rarely apoplectic ; and when he is, there is seldom that degree of plethora which gives to apoplexy its greatest danger. There are, indeed, cases recorded of two stallions that became paralytic after covering too many mares ; they became apoplectic first, and there was probably considerable effusion of blood on the base of the brain. This kind of palsy follows some change in the structure or functions of the brain, long visible enough in the loss of temper and the decline of intellect, or it may be attributed to some moral influence or mental irritation. The horse has scarcely brain or intellect enough for this.

Palsy is produced by some injury inflicted on the brain or its membranes, but the brain in our patients has either a second plate of bone of great thickness, or a thick mass of muscle given for its protection.

Palsy in our patients proceeds from injury of the spinal chord, and that chord is more developed ; it is larger than in the human being. It is more exposed to injury—injury which will affect not one side only, but the whole of the chord at the injured part. It is also an anatomical fact, that the decussating fibræ which extend from one motor column to the other, and connect the two together in consentaneous action in the animal whom we often tax so severely, and whose utility to us consists principally in his muscular strength, are far larger in the horse than in man ; and, by means of these connecting fibres, disease also is more likely to spread from side to side. It is on these accounts that while hemiplegia is the form which palsy oftenest assumes in the human being, paraplegia, or palsy equally affecting both sides, is the most frequent malady of the quadruped.

The Hind Extremities chiefly.—Palsy in the horse generally attacks the hind extremities. The reason of this is plain. The fore limbs are attached to the trunk by a dense mass of highly elastic substance. This was placed between the scapula and the ribs for the purpose of preventing every concussion that could be dangerous or even annoying to the horse or his rider. Except in consequence of a fall, there is scarcely the possibility of any serious injury to the anterior portion of the spine. The case is very different with regard to the hind limbs, and their attachment to the trunk. The femur articulates with the pelvis, and the pelvis articulates with the sacral continuation of the spine. The muscles of the thighs and haunch are capable of the most powerful exertion, and the greater part of them derive their origin from the bones of the pelvis or the spine ; and these parts are necessarily liable to many a shock or sprain injurious to the spine and its contents. The lumbar and posterior dorsal portions

of the spine oftenest exhibit those lesions which are connected with, or the cause of palsy, because there are some of the most violent muscular efforts—there is the greatest movement and the least support. Many other causes of palsy are assigned as it regards other animals; but it may be taken as an axiom to regulate our practice, that in the horse it almost invariably proceeds from disease or injury of the spine.

Palsy referrible to Lesion of the Spine.—If you inquire into the history of the cases that come before you, you find that the horse had fallen, and rose paralytic—or that he had fallen and had been much shook a few days before—or he is seized in the midst of his work, and when his energies have been too cruelly taxed—or he had been worked exceedingly hard a few days before, and there had been some dead pulls, or a very heavy load—or the pace was greater than usual—or, covered with perspiration, the horse had been left exposed to the cold and wet.

I am speaking of the cases as they generally occur. Accounts are given us, and particularly by the French writers, of exceptions to this. Palsy has been produced by, or supposed to be connected with aneurism of the posterior aorta, excessive bleeding, inversion of the rectum, intestinal irritation, lesion of the muscles of the thigh, fracture of the scapula. Of the actual connexion of palsy with some of these there may be considerable doubt, and others are plainly referrible to the principles for which I am contending. I know, also, that colts of one or two years, neglected, exposed, feeding on low marshy ground, and others at the period of weaning, especially if the mother has been ill-fed, are subject to attacks much resembling palsy, or, in fact, in some cases, true palsy; but we shall see, in the dog, the connexion between intestinal irritation and palsy of the hinder extremities, and evidently to be traced, not to the brain, but sympathetic affection of the spinal chord.

Symptoms.—Generally speaking, there are few precursor symptoms. On the previous day the horse is apparently well: he is found on the following morning, or soon after some severe accident, dreadfully lame; in great pain; and shifting his weight from one limb to another. In some cases there may be previous fever, heaving, illness which can scarcely be referred to any particular part, or derived from any particular cause. Very shortly, however, the mischief can be traced to one leg; perhaps both are equally affected: the animal can scarcely walk; he walks on his fetlocks instead of his soles; he staggers at every motion; he hurries along to prevent himself from falling; at length he falls; he is raised with difficulty, or he never rises again.

The sensibility seems for awhile to be very much increased, but

the sensibility of the part, and the sensibility generally, gradually subsides—it gets below the usual standard—it ceases altogether. There are none of those sudden suspensions of feeling and voluntary motion which are recorded of the human patient, because it is not so often an affair of the head: it is the result of spinal disease or injury—it originates in inflammation of the spine or its membranes, whatever be the cause of that inflammation; and it is ushered in by fever and excruciating pain. When the pain which accompanies the first attack has passed over, the animal, with the exception of his powerless limbs, appears for a while—a time of very uncertain duration—in the full possession of all his senses, and eats and drinks as usual. I have seen colts, in whom there has been rheumatism or affection of the joints resembling, or running on to, palsy, preserving their full appetite, and all their gaiety, and expressing, as plainly as they could do, their desire to gambol about with their companions.

Post-mortem Appearances.—In almost every case, and usually about the lumbar region, there is inflammation of the membranes of the chord, or of the chord itself. The membranes are highly injected, or gorged with blood, or thickened, or with serous infiltration between them, or with their surfaces covered with minute concretions. The medullary matter is of a yellow colour, or, on being cut into with a keen scalpel, minute points of blood follow the knife; or, and in proportion as the sensitive system has or has not been involved, the whole of the spinal chord at that part will be softened—semifluid; or the inferior columns (the anterior ones in the human being) will be softened, while the superior ones will be unaffected.

Prognosis.—Well, gentlemen, you will have to do with a very serious complaint here, and, in the majority of cases, the termination will be fatal. You will anxiously endeavour to ascertain the cause. Is there any fracture or dislocation of the spine? if so, you have no power to reduce the one or the other—and the sooner you terminate the sufferings of the patient the better. Is the cause unknown, or can you connect it with extra-exertion, or exposure to cold?—are you assured that it is not the winding up an old spinal affection?—proceed to adopt the proper measures of cure, but let your prognosis always be guarded—always unfavourable.

Treatment.—Always commence with *bleeding*. There has been or there is inflammation, and that of an intense character, and threatening fatal lesions of the part affected. Bleed, as my advice in inflammatory cases has always been, until the circulation is evidently affected—until the pulse begins to falter, or the horse to stagger, or to blow. Then *purge*—give the usual

dose of aloes, according to the height and form of the patient, or his already known susceptibility to the impression of purgative medicine; and add to that from six to ten grains of the croton nut. Blister the whole of the lumbar region, and the posterior part of the dorsal; or what, perhaps, is better, cover the loins with a mustard poultice, frequently removed. Cover with plenty of warm clothing—give plenty of warm water, or thin gruel—supply plentifully with mashes—remove both hay and corn—back-rake, and throw up frequent injections. You will soon find out whether there is any likelihood of success. They are usually not very lingering cases. If you imagine that the case is going on favourably, do not, on that account, relax in your attention, for a relapse too frequently occurs, and it is worse to contend with than the original complaint. You may give your patient green meat—a little hay; but do not be led away by the common notion of debility—do not suffer him to have a morsel of corn; and, above all things, not one grain of cordial or tonic medicine. Remember that, nine times out of ten, palsy in the horse is an inflammatory complaint, or, at least, the result of inflammation.

There is one way in which you may give apparent tone and strength to the part. As soon as the heat and tenderness have a little abated, and the animal regains, to a slight degree, the use of his limbs—or if, the inflammation having passed away, it becomes a case of chronic palsy, put a charge over the loins, and an extensive and a stimulating one. To the usual pitch and tar, and wax—and the common pitch is as good as the more expensive Burgundy—add a portion of powdered cantharides—a quarter of an ounce to a pound of the charge. You will accomplish three purposes, and three good ones. In the stimulus of the charge on the integument, you will have the principle of counter-irritation, and that more than supplying by the continuance of its influence its want of immediate activity. In this thick plaister, covered, as you cover it with flocks, you will have a defence against the cold, and against the changing temperature to which the animal is exposed; and you will have a material and a very useful support for the limbs. Let your charge be hot enough of the cantharides—extensive enough—thick enough—covered sufficiently with flocks, and then, while you can never do harm by it, you will occasionally effect wonders. One thing never forget,—that the greater part of the remedies for palsy, simply considered as a loss of nervous influence, are worse than useless here. The disease is based on inflammation, and it is that which you must subdue.

Diseases resembling or producing Palsy. — Inflammation of

the kidney is frequently accompanied by a loss of motion in the hinder extremities, either closely resembling palsy, or for a while partaking of the true character of palsy. There is the same reluctance or inability to move, and the same knuckling and progressing on the fetlocks. Either the lumbar muscles partake of the inflammation of the kidneys, and the extreme pain occasioned by every motion of the limb, makes the horse as unwilling to move as if he were actually palsied; or the nerves escaping in the immediate neighbourhood and destined to give motion to the hind extremities, actually take on inflammation. This shews the necessity of decisive measures in affections of the kidney—the lancet, the physic ball, and the mustard poultice should be called into active requisition.

A few months ago, I attended a horse with what I supposed to be, and am confident was, a chest affection—it was pleurisy. All at once the character of the disease was changed, and I had evident nephritis—there was the same almost inability to move, the same knuckling at the fetlocks, the actual going upon the fetlocks, the cracking of the fetlock and pastern joints at every motion. Whether my measures were not sufficiently active, or the inflammation bid defiance to controul, I lost my patient.

Old, and abused carriage horses, with extensive ankylosis of the spine, frequently have a constrained and confined action, an inability to flex the spine or to move except bodily and like a deal board as it were; and there is evident loss of motion and power. Look at this specimen of ankylosis of almost the whole of the spine, and you will see what I mean.

There is a disease of another climate—Kumree—which is described as a weakness, or partial paralysis of the loins, and which is said by some to be connected with the presence of a minute worm in the anterior chamber of the eye. We shall inquire into this when the disease of the ocular system, comes under notice.

In our next lecture we shall have to take a very different view of palsy, as it appears in other patients.

VETERINARY SCHOOL AT ALFORT.

EXTRACT FROM THE REPORT OF THE PROCEEDINGS DURING
THE SCHOLASTIC YEAR 1834-35.

DURING the past year there have been admitted into the hospital 727 patients, viz. 492 horses, 225 dogs, 4 asses, 1 mule, 3 cows, and 2 goats.

Of the 492 horses 378 have been dismissed cured, or in a fair way of being so; 41 remain under treatment, 24 died under treatment, and 49 were destroyed, either because they were deemed incurable, or that the cost of cure would approach too nearly to their value.

Of the 225 dogs, 35 died, and 190 were successfully treated.

Of the 4 asses, 1 died, 2 were cured, and the 4th, whose foot had been crushed by a chariot, was removed while under treatment.

The 3 cows and 2 goats were dismissed cured.

Of the horses, the successful cases were 14 out of 15; and of the dogs, 6 out of 7. This difference in favour of the horses is explained by the serious character which disease assumes in an animal so sensitive as the dog; by the great difficulty of administering to him the proper medicine, and keeping him in a state of quietude; but most of all by the smaller degree of attention which has hitherto been paid to the pathology of the dog, and the comparatively less importance which is attached to the preservation of that animal.

However this may be, the result is favourable to the growing reputation of the school, since few horses are sent to us that are not affected by serious maladies, or that have not been, unsuccessfully, under the care of other practitioners, or condemned as incurable.

It is gratifying to observe the yearly increasing number of our horse patients. In 1831 there were 324; in 1833 they were 333; in 1834 they were 382; and in the present year they were 492, an addition of more than a hundred in one year: and this increase has taken place notwithstanding the influence of a cause that would seem to be prejudicial to our interests, namely, the rapid increase in the number of veterinary practitioners in Paris and its environs.

Beside the animals that have been left with us for treatment, we have been consulted with respect to 1825 others, either on account of disease, or as to examination for soundness, or in cases of legal disputation. With regard to each of these, the Professor or his Assistant have given their advice verbally or in writing, and on many of them surgical operations have been performed.

It appears, therefore, that, including those left in the hospital and brought for consultation, the number of animals that have been brought to us amounts to 2552. In addition to this, the pupils of the fourth year have been permitted to attend on a great number of horses and cattle in Paris and its neighbourhood, and that were not or could not be brought to us.

Among the diseases that have come under notice GLANDERS has, as usual, occupied the chief place. Our attempts to cure chronic confirmed glanders have, as heretofore, been altogether fruitless. There never can be a radical cure in this stage of the disease. The prevention of this malady should occupy the chief study of the veterinarian. Three cases have occurred in which it was evidently caused by the re-absorption of pus.

It is a most important question, how far glanders is contagious. Government has yearly expended enormous sums under the belief that it may be contagious. All the observations which the Director has been enabled to make, and the documents which have been communicated to him by veterinarians, civil and military, and the information which he has obtained from extensive breeders, have confirmed the doubts which he has always entertained, in common with the majority of veterinarians, as to the contagiousness of this disease. A great service would be rendered to the country if, by means of experiments conducted on a large scale, this question could be set at rest. A sum of no great magnitude would put an end to all the incertitude, we had almost said those unfounded errors, which have been so injurious to the interests of the army and of agriculture.

FARCY.—The more attention we pay to farcy, the more clearly appears its analogy with glanders. The causes, the apparent nature, the system which it attacks, the lesions which accompany it or are complicated with it, are, with few exceptions, the same; in addition to which is the perfect incurability of the malady when it has become constitutional, or when it attacks a part of the frame inaccessible to the cautery or the knife.

Farcy, however, often proceeds from the influence of external causes. We have had several instances of this in the course of the last year. These cases have been successfully treated by the division of the principal lymphatic vessels which emanate from the affected parts. In order, however, that the operation should be satisfactory, it is necessary that it should be performed before the ganglions to which these vessels lead become diseased; that is to say, before the fluids absorbed and transmitted by these glands have entered in too great quantity into the circulating mass. Among many cases to this effect, we will glance at two only.

These animals had been for some time affected with a farcied engorgement, and with eruption and ulceration of buttons or buds on the hind limbs. During two or three days the ganglions of the groin had been very much tumefied, and the horses had been evidently and considerably uneasy. As these animals seemed

otherwise to possess a good constitution, M. Renault, after making the owners perfectly aware of the danger of the case, and of the operation, attempted and executed the excision of the ganglions of the groin. They were more or less reddened and infiltrated; and some of them were filled with pus, a portion of which escaped from the ulcerated buttons. A month afterwards, one of these horses was perfectly well, and resumed and continues his work. The other seemed to be going on well, but unfortunately received a wound which penetrated into the chest, and of which he died.

MANGE.—In pursuing his inquiries into the pathological effect of purulent re-absorption, M. Renault felt assured, that in many horses and dogs mange, more or less extensive, and almost always obstinate, arose from the cessation of discharge from suppurating wounds of some depth and extent which had been inflicted on the animals.

SURGICAL OPERATIONS.—The great number of operations performed in the school during the last year have convinced the Professor of the truth and importance of a principle not sufficiently appreciated, namely, the advantage which, in most cases, is derived from free incisions, prolonged, if possible, to the most dependent part of which the wound is capable. Attending to this, the veterinarian will not only operate better, but more quickly and easily; while the accumulation of pus in the wound will be prevented, and the cicatrization will be hastened to an extent that would scarcely be thought possible.

THROMBUS.—Several very serious cases of thrombus have been treated with perfect success. One in particular was accompanied by local gangrene, hemorrhage repeated almost every minute, arachnitis, and an affection of the lungs, in which the fetor of the breath threatened a speedy termination of the case in gangrene. We regret that we have not space for the insertion of this case.

CARDITIS.—Some veterinarians of much deserved repute have spoken of inflammation of the membrane lining the cavities of the heart. This, however, is a morbid lesion accompanying various diseases, and particularly maladies of a typhoid character.

A horse was brought to the hospital exhibiting a series of symptoms which evidently betrayed an affection of the heart. On opening him, we found all the lesions characteristic of internal serous inflammation in yellow membranous productions, soft yet well formed, lining a part of the left auricle, and the mitral and tricuspid valves. Beneath the serous membrane was a yellow

and gelatinous infiltration, which separated it from the muscular coat, and extended nearly four lines into that coat, and the firmness of which was very remarkable.

ANEURISM OF THE AORTA.—A horse was affected with colic. M. Maillet, in exploring the rectum, detected in the sub-lumbar region an extra intestinal tumour, which he regarded as an aneurism. The horse voided, from time to time, clots of blood by the anus, and died six days after his arrival at the school. On opening him, M. Renault found on the abdominal aorta, and at the commencement of the mesenteric arteries, a spheroid aneurismal dilatation as large as a man's head, filled with concentric fibrinous clots, and adhering to the descending portion of the colon, through a great part of its extent. About the middle of this adhesion was an opening, the organized borders of which shewed that it had been of long duration, forming a communication between the interior of the aneurism and the intestinal canal.

ASCITES.—Abdominal effusion is frequent among dogs. When it is not connected with any serious organic lesion, it ordinarily yields to the employment of preparations of squills, whether administered internally or used as a liniment. On two of these animals, that had exhibited palpitation of the heart, this treatment failed. On opening them, an effusion of more than two pounds was found in the pericardic cavities, and numerous false membranes of long standing between the heart and its enveloping membrane.

CARIES OF THE NOSE.—In three horses admitted into the hospital during this year, M. Renault observed a lesion very frequent, but which has not engaged the attention of veterinary surgeons; namely, caries of the cartilages forming the base of the alæ of the nose, and produced by the bite of other horses, or some external injury. A wound of this kind, although very simple in appearance, is often very difficult to heal. One of these horses remained two months in the hospital, and was dismissed without the slightest relief. Two other horses, after being with us three months, were dismissed, some progress having been made towards the healing of the ulcer. We cannot speak as to the perfection of the cure, but they are at work.

TOXICOLOGY.—At the commencement of the year M. Renault, in conjunction with the Professor of Chemistry, instituted a course of experiments on poisoning with arsenic. Their object was to ascertain the effect of arsenic on the economy, and the degree in which we could rely on the hydrate of the peroxide of iron as an antidote: the result of the experiments was—

1. That, as it regards the horse, the arseniate of arsenic was a more active poison than the arsenious acid.

2. That two horses could take, without being seriously affected, the one an ounce, and the other an ounce and a half of arsenious acid, while five others were destroyed by similar doses.

3. That ecchymoses, sometimes extensive and numerous, in the bladder, and particularly traces of acute inflammation under the serous membranes of the cavity of the heart, with erosion of the mucous membrane of the right side of the stomach, and also of the cæcum, and sometimes the colon, are the usual lesions of this kind of poisoning.

4. That however serious may be the lesions of the large intestines, chemical analysis has demonstrated traces of the poison only in two cases out of seven; while in all of them there has been found a sufficient quantity of the poison in the contents of the stomach.

5. That when the hydrate of the peroxide of iron has been swallowed immediately or very soon after the arsenic, there has been good reason to hope for success.

PUNCTURE OF THE CÆCUM.—This operation, formerly practised with success in cases of flatulent colic, had long fallen into disrepute, when M. Bernard, professor at Toulouse, lately recalled the attention of veterinarians to it. M. Maillet has practised it with success on an old ass, four days afflicted with stercoral indigestion, and brought to the school in a desperate state. The colic immediately ceased, and the puncture made with a trocar very shortly healed.

ANIMAL CHEMISTRY.—Some new and interesting researches have been made into the composition of the brain, and particularly of the white or medullary, and the grey, or cineritious substances of which that organ is composed. A given quantity of the medullary substance contained fourteen times as much white fatty matter as an equal weight of the cineritious, and a less proportion of water. This, which had been proved in the human brain, was found to be the case in the brain of the horse.

Although aware of the usual composition of the calculi which are found in the bladder of the solipede, it is interesting to inquire whether there are not occasional variations. A calculus that entirely filled the bladder of a horse, and was sent to us by M. Rigot, the professor of anatomy, was found to contain eighty-three parts of carbonate of lime, three parts of carbonate of magnesia, and about one part of phosphate of lime. This result, proving that the base of the calculus is carbonate of lime, shews also that it is not altogether destitute of phosphate of lime, but may perhaps yield one hundredth part of that compound.

Many natural and artificial substances, which, accident at first, and experience afterwards, had employed in combatting the

diseases of man and the inferior animals, have been examined as to the active principles which they contain. Analytical chemistry is daily throwing new light on this branch of medicine, by distinguishing between that which is active and that which is inert; and enabling the medical man and the veterinarian to combine the active principle with other analogous substances, and so to obtain a more effective remedy.

In some provinces of Normandy the farmers employ whey kept until it is putrid for the cure of redwater in cattle. The professor of therapeutics being informed of this, endeavoured to ascertain the composition of this fluid; and he found that it contained subcarbonate, and acetate, and a little hydro-sulphate and ultimate of ammonia. These ammoniacal products, and which are found to a greater or less extent in all animal matters undergoing the progress of putrefaction, are, without doubt, the principal agents in the cure of redwater when this whey is employed: it will, therefore, be advisable to try these pure ammoniacal preparations as a cure for this complaint.

Rec. Sept. 1835.

IDIOPATHIC TETANUS.

By Mr. W. KARKEEK, Truro.

WHEN I first presented this subject (in January and March last) to the notice of the readers of THE VETERINARIAN, I was afraid that the theory which I had formed would not stand the test of practice, and might exemplify the folly of hasty conclusions, jumped at from false premises; but I have now a better opinion of the remedy which I then suggested, and the following case must be considered as a proof of its efficacy.

I am aware that we very often delude ourselves in regard to the operation of medicines, which seldom effect what we suppose them to do. For this reason it is proper that we should be sceptical with regard to new remedies, which hardly ever maintain the character bestowed upon them by their first employers. With this preface, I beg to offer the subject of Idiopathic Tetanus a second time to your attention; and so thoroughly impressed am I with its importance, that my only regret is, that it has not fallen to abler hands.

A chestnut gelding, six years old, the property of Mr. N. Brewer, Truro, was brought to my stables early on the morning of the 1st of September, afflicted with idiopathic tetanus. The disease had manifested itself on the preceding day, and during that period had made considerable progress. The breathing was quick and laborious, the pulse varying from sixty to ninety, small

and irregular; and the countenance wild and expressive of extreme agony. I ordered the suffering animal to be placed in a loose box; administered, with great difficulty, about seven or eight drachms of Barbadoes aloes in solution; the jaws being nearly closed, and the spasms at that period very violent. Afterwards sixteen pounds of blood were taken, and a strong blister applied to the sides of the chest, and over the whole surface of the abdominal viscera*.

September 2.—The bleeding repeated, and as the horse had been disturbed by persons visiting him in the course of the preceding day, strict orders were given that he should be kept quiet, and free from intrusion.

3d.—The bowels not being yet acted on, ordered croton oil gtt. xx, and V.S. ℥xij.

4th.—The spasms are not so violent, the respiration is easier, and the pulse ranging from forty-five to sixty. The bowels are still confined. Ordered a fresh blister to be applied.

5th.—The symptoms are improved, and a longer interval is observed between the spasms. The animal appears inclined to eat, and bran and flour mixed with water are given, which he greedily sucks between his teeth.

6th.—Purging commenced about the middle of the day; the discharge has *an unhealthy and slimy appearance, and smells very offensively.*

7th.—The jaws are less rigid; the spasms are considerably abated; the appetite is good, and the animal ate some cut grass: ordered a couple of baskets full to be given in the course of the day.

8th.—The animal does not appear so well as on the preceding day; the secretions appear to be stopped, no dung having been discharged during the night; the spasms are also returned. Ordered another blister to be applied, the blistered surface having been previously well bathed with hot water. I am determined not to give any purgative, but to try the effect of the blister only.

9th.—The blister acted well; the animal appears considerably better; the natural secretions have returned, for during the day copious discharges of fæces took place.

10th.—The horse is considerably better; the full action of the bowels appears to be restored.

11th.—The tetanic symptoms are fast removing; some bruised oats are ordered to be given with the bran.

* If another case should occur, I should likewise insert a rowel in the chest.

13th.—The horse was turned into a paddock for a few hours during the middle of the day, and this practice was pursued whenever the weather would admit of it. He travelled a little stiff on his hind legs for a few days, but that soon disappeared, and on about the 20th of the month he was pronounced cured.

The good effect of the blisters was strikingly manifested in this case, particularly in the two last that were applied; for the tetanic symptoms appeared to subside in exact ratio as the swelling or discharge from the blistered surface increased.

The reader will recollect the circumstance which occasioned my applying blisters to the abdomen instead of the spine, as is usually done. Two cases of idiopathic tetanus were treated by me in the usual manner, i. e., blisters and sheep-skins to the spine, copious bleedings, setons over the medulla oblongata and on each side of the cervical and dorsal vertebræ, active purgatives, and opium in large doses. But the disease in neither instance yielded to any of these; the symptoms were augmented, and were rapidly approaching to a crisis, when, about the eighth or ninth day of the attack, slight anasarcal swellings were observed underneath the abdomen: at about the same time the symptoms are observed to be mitigated, and they gradually disappeared in exact ratio as the œdema increased in volume.

Here were two extraordinary instances of the removal of this disease by metastasis. Nature herself led the way; and, in conformity with her plan, I endeavoured to produce the same effect artificially as she accomplished by natural means. Accordingly I applied strong blisters to the sides of the chest, and over the whole surface of the abdominal viscera. My plan was successful. Another case happening shortly after, it was again tried with success; and now I have submitted a *third*, as a further proof of the method of treatment which I have recommended.

My method is founded on that well-known law of the animal economy, that two distinct inflammations are seldom found in parts situated near to each other; but a part or proximity may become susceptible of the increased action, in a superior degree, to the part first affected; in which case, as it takes on the inflammation, it very generally produces the effect of removing it from the other, and this termination is called metastasis. It is not often that this termination is produced in the horse, except by artificial means. In a pneumonic state of the lungs, for instance, by raising an active inflammation on the sides of the chest externally by blisters, many horses are saved; for a removal of the affection takes place from a part essential to life, and with which the system sympathizes largely, to a part not essential to life.

In the post-mortem examination that I have made on horses

that have died tetanic, I have invariably discovered the stomach and bowels to be diseased, and the sympathetic nerves, throughout their various ramifications in the abdomen and chest, highly vascular. The opinions of others prove the correctness of mine*. "Numerous instances could be adduced, in the human subject, of indigestible substances, and of tape and round worms, found on inspection of the canal in tetanic cases; and a case of trismus, under Mr. Earle, recovered after the expulsion of a tapeworm from the bowels;" indeed, the epithet *idiopathic*, if strictly to mean a spontaneous and exclusive disease, independent of the natural sympathy between part and part, is nonsense; for the disease in question is evidently symptomatic. Therefore in all tetanic cases, whether the morbid contents of the intestinal canal, the effect of a sudden chill of the surface, or the irritation of an external injury, prove exciting causes of the tetanic spasm, the disease must be equally regarded as symptomatic. In traumatic cases, the injury is certainly apparent; but we are not to infer from that, according to the axiom, *de non apparentibus et non existentibus eadem est ratio*, that there is no local irritation existing in cases apparently idiopathic. My opinion is, that, in cases of this description, the disease is first produced in the digestive organs; the morbid contents of the intestinal canal, acting upon its highly irritable and nervous tissue, produce spasm; the sympathetic system of ganglions and nerves, which, more or less directly communicates with all the nerves of the body, next becomes disordered; the cerebo-spinal system sympathizes with them, and participates actively with its distress; convulsions are produced, which, once established, soon gain ground, and the disease quickly gets beyond the natural sympathies, for we cannot easily control it by the removal of the exciting cause, and our medicines prove inert. "Alcohol," says Abernethy, "will not fuddle a tetanic patient, opium will not make him sleep, and mercury will not salivate him." He is unsusceptible of the excitement of the most powerful medicines; what will produce a considerable effect on others will not in the slightest degree affect him. The reason is obvious—the power of the secreting surfaces, and those organs by which the supply of these fluids is regulated, have become deranged in consequence of the loss of nervous energy.

The secretory organs are supplied principally with branches of the great sympathetic, terminating in various ways; their substance gives to each of them a peculiar sensibility, by means of which they discover in the blood which the vessels bring to

* See VETERINARIAN, 1832, Cases of Tetanus, by Mr. Alex. Henderson.

them the materials of the fluid which they are destined to secrete, and these they appropriate, by a real selection, to themselves. Besides, the nerves communicate to them a peculiar composition, and bestow on the fluid which is the product of it, specific qualities always bearing a certain relation to the mode of action of which it is the result. Thus, the liver seizes certain materials contained in the blood, elaborates and combines and converts them into an animal fluid, distinguishable by peculiar characteristic properties, called *bile*.

Now, taking the liver for an example, in tetanus we find that the secretion of bile is altered; we likewise find the sympathetic nerves affected, and this change in the condition of the bile is applicable to all the secretions of the animal economy.

Since, then, it must be admitted, that the various secretions are dependent on the nerves, any plan of treatment that can be pursued to restore the nervous energy, that the glandular organs may perform their proper functions, would be highly beneficial.

I believe that purgatives by themselves will not produce a return of the secretions; but when combined with counter irritants, in the form I have recommended, they may have a beneficial tendency. The cases which are submitted in this paper to your notice, very sufficiently prove the good effect of the blisters, especially the last one. In this instance purging was not produced until the morning of the sixth day; on the eighth costiveness was again present. No medicine of any kind was given to remedy this, but a strong blister was applied to the abdomen, and on the following day the secretions returned, and a copious discharge of *fæces* was the consequence. Here it was evident that the change that took place in the visceral glands was produced in consequence of the blister.

We cannot explain the *modus operandi* of the blisters, except it is by *sympathy*. A knowledge of sympathies is of the highest importance in the practice of medicine: it affords us the means of explaining how an affection is first local or limited in its extent, and then spreads and extends to all the systems: it is thus that every morbid process is carried on; and likewise, when we wish to avert an irritation fixed in a diseased organ, experience and observation prove that it is on the organ which bears to it the closest sympathetic connexion that it is useful to apply medicines intended to excite irritation.

The reader will perceive that I have not used any opium in the cases which I have described as cured by the application of the blisters. My reason for so doing arose not from any doubt that I entertained respecting its efficacy in lulling irritation, as I well know, from experience, that it is a most valuable remedy

for that purpose: I refrained from using it in these instances, because I particularly wished to give the blisters a fair trial. In another case it is very probable that I should employ it, and that extensively too; for in treating this complaint every effort should be made to tranquillise the system. I have found great benefit before now in employing tobacco clysters for this purpose.

My object in producing the present paper, is not to attempt to throw every other medicine overboard except the one I have recommended. In my short practice, I have observed this one common fate attend all specific medicines of the kind—medicines which might otherwise be of infinite service in many cases, by attracting the attention of the public, are employed on all occasions, and produce frequent disappointments, and gradually fall into disuse. The operations and effects of remedies are not absolutely inherent in themselves, but depend upon the mutual action and re-action of the body and medicines upon each other; hence the various effects of the same medicine on the same kind of disease in different patients, and in the same patient at different times.

ON EARLY ŒSTRUM AND IMPREGNATION IN THE HEIFER.

By the Rev. HENRY BERRY, Conductor of the "British Farmer's Magazine."

I OBSERVE in the October Number of THE VETERINARIAN, a communication respecting a case of early and frequent Œstrum in a heifer, which the writer considers extraordinary, and which I conclude, from the nature of Mr. Dick's remarks, has seldom occurred to him.

You have encouraged me to hope any information on such topics may be useful; and I therefore beg leave to state that, I this year lost an improved short-horned heifer from the injury experienced in extracting a calf at a period when the dam was only thirteen months old. The bull's access to her at such an early period was, of course, accidental; but the circumstance of calves seeking the bull at this early age is quite common in my stock, most particularly if the calves be allowed to suck the dam. Strange through the circumstance may seem, I find them more susceptible of impregnation at a very early age than when more matured; and, still more strange, my late but frequent experience has been derived from cases where the calves, unmangeable under these circumstances, have obtained access to a *par-*

ticularly large bull, whose size would suggest the impossibility of consummation.

I think it probable *any* calf allowed to suck the dam would come earlier in season than otherwise, and the reasoning in favour of such opinion is sufficiently obvious; but the improved short-horns are peculiarly characterized by *general* early maturity, and I should, even without the testimony of experience, be inclined to expect the result under consideration, as well as the other indications of such early maturity.

I do not feel sufficiently master of the subject as it ought to be treated in your work, otherwise I could probably direct attention to one or two important facts connected with it. What I have stated may, however, suffice to promote inquiry.

[Mr. Berry would confer much obligation on us and our readers, if he would take up the subject to which he alludes. No man is or can be better qualified.—Y.]

To the Editors of "The Veterinarian."

Gentlemen,—The pleasure I experience in the advancement of veterinary science and the welfare of your periodical, and also the regret I feel to see so few of our elderly, long-experienced, and talented veterinarians adorning your pages with their valuable remarks, have stimulated me to transmit to you the following case.

I am, Gentlemen, &c.

THOMAS HOLFORD.

ATROPHY IN A COLT, WITH HOCK-LAMENESS.

By Mr. THOMAS HOLFORD, V.S., Northwich.

ON the 11th of last May, I saw a two-year old colt, the property of Mr. Pemberton, of Leftwich: he was of the blood kind, a beautifully formed animal, but wretchedly poor in condition, and so lame in the near hock, that he, in a manner, dragged the limb after him. The joint was very much deformed by bursal enlargement; and, on examination of the part, I found the inflammation to be excessive. Upon inquiry, I found that he had been lame about three weeks. He was perfectly sound when put into the stable over-night, and lame on the following morning. A most rapid emaciation had taken place since the

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attack, and the owner informed me that he was in good condition, and admired by every one, prior to the morning of his lameness.

The animal eats with avidity, and in every respect appears lively and healthy, except in the circumstances alluded to. I ordered the joint to be constantly fomented, and the colt to be kept on low diet.

13th.—The inflammation a little abated; send a refrigerant lotion: he eats all before him, as usual.

15th.—Inflammation subsided, but the thoroughpin and bog spavin still remaining. Blister the hock.

21st.—I thought the hock less: improved as to his lameness, but no better in condition.

June 4th.—I was called this morning to a similar lameness in the other hock, which I thought might arise from his constant standing on that leg in order to favour the other. The treatment as in the other limb.

6th.—Inflammation abated; blister the hock; condition no better. I requested the owner to permit me to give him medicine, to which he agreed. Take of gentian, ginger, and carraway powder one ounce each; powdered cantharides, thirty grains: divided into six balls, and give one daily.

27th.—Improved in condition; the lameness has left him, but the hocks remain filled with bursal enlargements. I desired the owner to have him fired at once; but he, dreading the marks of the iron, requested me to persist in some other treatment.

30th.—Blistered both hocks severely.

July.—I met the brother of the owner of the colt two or three times during this month; and on inquiry after the colt, was told that the last blistering had diminished the hocks in size, and that he gradually improved in condition since he had been taking the medicine; indeed, to make use of his expression, he was "daily galloping about the fields like a buck, or continually feeding, and never resting."

Aug. 12th.—The owner came to my surgery for some more medicine like the last, as he had for this week back gone thinner than ever.

26th.—I saw him to-day; he was looking better and the owner informed me that he improved again after the medicine. An abscess had formed a little before the anterior spinous process of the ileum. I passed a seton through the bottom of it. The pus is of a thin, unhealthy character. Send a diluted solution of the chloride of lime. In a day or two the secreted pus was very healthy.

Sept. 5th.—Looking much better; wounds discharging freely.

11th.—Called to see him ; but he being a good distance in the fields, and the owner being confident of his improvement, I did not think it necessary to fetch him up.

Oct. 1st.—Between this date and the last visit, I occasionally inquired after the animal, and was told by the owner, that he gradually improved, and that he now certainly anticipated the recovery of the animal.

24th.—I was requested to see him again. He was thinner than ever; indeed, if it be possible for a living skeleton to exist, this was one. I told the owner that I feared some internal abscess had formed, or extensive chronic disease was going on internally, and I consequently gave him no hopes of recovery. By his request, I sent the tonic medicine as before. He fed as greedily as from the first, until about a week after this; when one morning he was found dead in the stable, and to all appearance had died without a struggle.

Post-mortem Examination.—Bowels inflamed; kidneys enlarged, and of a pale clay colour through the cortical and medullary substance. In the pelvis of each there was a collection of pus. Liver diseased, and the finger thrust through any part with the greatest ease.

On the left side of the loins, an abscess containing nearly a pint of thick matter was found. The coats were remarkably thick, and of a scirrhus texture on the inferior surface; the heart was enlarged and flabby. Bronchial tubes filled with mucus.

Lungs congested; and at the apex of each lobe there was a few scirrhus tubercles, about the size of marbles.

INFLAMMATION OF THE MUCOUS MEMBRANE OF THE INTESTINES.

By Mr. J. G. WEBB, London.

THE patient was a brown mare, the property of Mr. Woolf, and five years old. On the 10th of July I was requested to see her, when the following symptoms presented themselves:—Frequent rising and falling; the sphincter ani relaxed, and continual discharge of liquid fæces, with much mucus; the conjunctival and Schneiderian membranes highly injected; respiration quickened; extremities of an icy coldness; great agitation of the tail; and the animal much tucked up. Pulse 123.

The mare had been unwell three days; and, on the fourth, she was driven four journeys to Greenwich and back, a distance of nearly

forty miles. While coming home the last journey, she fell upon the road, and was dragged to a stable some little way off: a farrier attended and gave her a gripe drink; and on the following day, at five o'clock in the morning, I saw her. I then ordered her to be brought to my infirmary, and adopted the following treatment:—

July 10th.—V. S. $\mathfrak{f}\mathfrak{x}\mathfrak{i}\mathfrak{v}$, and give twice in the day pulv. opii $\mathfrak{z}\mathfrak{i}\mathfrak{j}$, and creta p.p. $\mathfrak{z}\mathfrak{i}\mathfrak{v}$ in a pint of infusion of linseed. Embrocate the belly well with oil of turpentine.

11th.—Pulse 97: repeat the drinks.

12th.—Pulse 120. V. S. $\mathfrak{f}\mathfrak{b}\mathfrak{i}\mathfrak{j}$: repeat the drinks.

13th.—Pulse small and thready; she was back-raked; but the faecal mucous discharge could not be stopped, and I gave up all hopes of her life.

14th.—Having occasion to go to the Veterinary College, I mentioned the circumstance to Mr. Morton, who wished me to administer catechu; and accordingly I gave, twice in the day, as before, pulv. catechu $\mathfrak{z}\mathfrak{s}\mathfrak{s}$, pulv. opii $\mathfrak{z}\mathfrak{i}\mathfrak{j}$, dissolved in a pint of water.

15th.—Much improved. Pulse 90: repeat the drinks. From the 16th to the 22d, she improved daily; and the pulse regained its healthy tone and number.

23d.—She ate a feed of corn, and two days afterwards went to her own stable. Six weeks after this she was sold for £23 at Mr. Alexander's repository.

[Most of our readers know full well that when astringents are admissible there can be no more effectual one than a combination of chalk, opium, catechu, and a little ginger. In our practice they supersede every thing else.—EDIT.]

CYNANCHE LARYNGITIS ERYSIPELATA.

By Mr. H. HUTCHINSON, East Retford.

Oct. 12, 1835.—I was requested to see a grey horse, five years old, the property of John Manwaring, Esq., of this town. He had for the last fortnight been affected with a violent cough and sore throat, for which, about a week before, he had been bled, but no medicine had been given, excepting a few doses of the nitrate of potassa.

When I first saw the horse, his cough appeared to have settled in a chronic inflammation of the larynx, the ordinary

symptoms of active inflammation being very slight: pulse 46; the conjunctiva and Schneiderian membranes slightly injected, also the flank beating rather quicker than usual. I inserted a seton under the jaw; rubbed a small quantity of the unguentum lyttæ on the tape, and ordered him mashes and half his usual quantity of hay.

13th.—The seton has not yet suppurated; applied the ungt. resinæ flavæ, and gave a mild dose of physic.

14th.—The discharge from the seton is of a serous nature, with a strong fetid smell; the part contiguous is slightly inflamed: the unguentum lyttæ again used to the seton. Physic operated freely; set towards evening.

15th.—The discharge from the seton still serous, and the parts rather more inflamed. I applied the unguentum resinæ flavæ.

7 P.M.—The swelling this evening nearly fills up the cavity between the lower jaw; removed the seton, and injected stimulating liniment.

16th.—The swelling this morning has extended to the parotid glands, as if suppuration would take place: the discharge from the wound is still serous and fœtid. I repeated the liniment, and applied an emollient poultice to the throat, to be kept constantly wet during the day with hot water: pulse 48.

4 P.M.—The swelling is painful to the touch, and very hard: I applied a blister to the part.—7 P.M. The blister begins to discharge freely, the pustules being remarkably large: pulse 48; extremities warm; bowels open. His appetite now fails; he will drink nothing but cold water. I continued the poultice for the night.

17th.—7 A.M. The swelling has, since last night, extended to an enormous size, towards the back of the head and half way down the front of the neck, terminating by an abrupt anasaruous edge. The breathing is now become very difficult, and may be heard at a great distance: pulse 52.

I called in Mr. Janson, veterinary surgeon, of Tuxford, and, after consulting with him, performed the operation of tracheotomy, which immediately removed the difficulty of breathing. The head and the throat were ordered to be constantly fomented with flannels wrung out of hot water.

11 A.M.—The swelling continues to extend with amazing rapidity; the tongue protrudes from the mouth, and is so swollen as to completely fill up that cavity: pulse 54, irregular; a greenish sanious discharge also proceeds from both nostrils. The animal is now suffering from pressure on the brain; he leans against the wall and manger in a comatose state for upwards of

ten minutes together ; he will then rally for a few minutes, but soon sinks into the former state. I punctured the swelling in a few places, from which issued a serous bloody fluid. He will not take any thing (and he is in that state in which it is impossible to use the horn) excepting a little cold water, which he appears to have great difficulty in sucking up.

4 P.M.—I opened the palatine artery by dividing it within the upper lip. I obtained about three pounds of blood ; I also punctured the cheeks in several places. The eyes are now nearly closed by means of the swelling ; the horse remains in the same state of drowsiness as this morning. Pulse 56, irregular.

7 P.M.—He is now become rather violent, requiring, at times, two men to hold him ; he continues to get gradually worse, each paroxysm being succeeded by one more violent : the skin appears to be distended to its utmost ; the swelling is extending towards the anterior part of the chest. I remained with him until 10 P.M. ; he was then in that state that no one could approach him with safety : he fell down for a few minutes, then got up more violent than ever. The case being now hopeless, with the consent of the owner he was shot.

Sectio cadaveris.—On dissecting back (on the following morning) the common integument clothing the face, head, and neck, I found the cellular membrane greatly infiltrated with serum ; the parotid glands did not appear inflamed, but the sublingual and submaxillary were very much so. The membranes lining the larynx, epiglottis, and trachea, were greatly inflamed, thickened, and gangrened ; they also partook of the serous effusion. On examining the thorax I found the lungs highly vascular, and gorged, as it were, with dark venous blood. I had not an opportunity of examining the brain, in consequence of its being mutilated by the shot.

ON APTHA.

By Mr. HARRY DAWS, New Bond Street, London.

AN Essay on Aptha, by Mr. Price, having appeared in No. 87, vol. viii, of THE VETERINARIAN, I am induced to offer a few observations on the subject, having had frequent opportunities of witnessing the disease from its commencement to its termination.

I will not intrude upon your pages by quoting from authors 250 years old, who were, after all, unacquainted with the malady ; but will refer the reader to page 538 of “ Blaine’s Veterinary

Outlines," where the disease is briefly spoken of in an indirect manner, under the head of Ulcers in the Mouth.

I must differ from Mr. Price, and consider the disease as specific, or *sui generis*; that it is confined to the mouth only, and that it is of a contagious nature, and has, of late years, been very prevalent with horses of all ages, sizes, and habits, belonging to dealers, &c. on account of their being so frequently exposed to infection, by wearing the bit or bridle that has immediately before been in the mouth of a horse that has aptha, and also being under the influence of various other simple causes of this malady.

The principal symptoms are, in some instances, loss of appetite, but almost invariably a ropy viscid discharge of saliva adhering to the lips. The buccal membrane and the tongue are irregularly covered with small white ulcers, having no communication with each other, and discharging a slightly fetid purulent matter. The tongue and lips are tumefied to a considerable degree. Sometimes the integuments covering the tongue slough to a great extent, and form one or more larger ulcers. These symptoms seldom or never produce constitutional derangement.

Considered as a local affection, the remedies required for its treatment are rest; soft but nutritious food; a little mild antiseptic lotion applied frequently to the ulcers, and laxative medicine, such as ʒiij of aloes, in a soft ball. This is far better than annoying the animal daily with other nostrums less efficacious.

The disease continues its progress for six or eight days before a healthy action is established; it then generally terminates in resolution, with this exception, that, if the membranes affected were of a dark colour previously, they remain spotted after the attack.

MURRAIN, COMMONLY CALLED BLACK-LEG.

By Mr. JOHN TOMBS, Pershore.

Sep. 7th, 1834.—I WAS requested by a farmer, near Evesham, to look at a calf that was very lame in the near fore-leg. When I saw him he was lying down and moaning; pulse very quick and rather weak; dribbling from the mouth; severe lameness of the near shoulder, with a swelling and crackling noise of the part. I bled copiously, and inserted several setons over the swelling. The skin was quite insensible, as the calf did not evince the least pain when the setons were inserted. I gave sulph. magnes. ʒvj, zingiber. ʒss: the animal immediately vomited it all up. I

then horned down a quantity of tepid water, which shared the same fate.

After repeated doses of physic were given, purging took place.

14th.—I was surprised to hear the animal was living, and the setons discharging. Give vegetable tonics.

Oct. 3d.—I revisited my patient, who appeared cheerful. It ate and drank well: pulse 40. On opening an abscess at the inferior part of the scapula I discovered some rotten flesh; I traced this putrid flesh by cutting through the common integuments to the spinous process of the fourth or fifth dorsal vertebra: the greater part of the antea and postea spinatus and trapezius muscles was completely decayed, and I removed it with the scalpel, leaving the scapula in some places quite bare; the spine of the scapula about its middle was diseased, which I excised. During the operation hemorrhage took place from two small arteries, which was suppressed by ligatures: a ghastly chasm was left in the shoulder, which I filled up with tow previously dipped in tinct. myrrh, and confined it by sewing the integuments as close together as possible. In four days the stitches were cut, and the tow removed: the wound had a healthy appearance, with the exception of the diseased part of the spine of the scapula, to which a solution of zinc was applied. Digestive ointment to the sore.

17th.—The reparative process going on rapidly.

25th.—The spine of the scapula has partially exfoliated. On examination I found a sinus; I enlarged it, and extracted a portion of bone, and used a solution of zinc.

Nov. 20th.—The wound has healed some time; the calf is now upright, sound, and healthy.

EARLY ŒSTRUM, AND IMPREGNATION IN A HEIFER.

By Mr. W. A. CARTWRIGHT, Whitchurch.

IN my last letter to you I said that Mr. Wilson informed me that a Mr. Robert Grindley, of Penley, had had a heifer that calved when she was about fifteen months old, and that she died in calving. I have this day seen Mr. Grindley, who says that this heifer of his was of the pure Durham breed, and could not be more than *twelve months* old when she calved.

When bulled she must have been feeding at the pail, and impregnated by a bull of his neighbour's (Mr. Griffiths) that had broken out of his pasture, and was at least nine score

weight a quarter. He also says that the heifer *did not die in calving*, but that the calf was a very large one, and ably extracted, with great difficulty, by Mr. Hampson, veterinary surgeon, Ellesmere, who was some hours in cutting it away. She is now doing very well, and in calf again, and Mr. G. believes she will not be above two years old ere she next calves.

A Mr. Knight, who resided some years ago in this town, had a heifer that brought a calf when she was fourteen or fifteen month old.

Being at D. Poole's, Esq. of Marbury Hall, the other day, I was mentioning these circumstances to the cowman there, who said that they had, two or three years ago, a Manx calf, not above three or four months old, that was frequently shewing a desire for the bull, and which was during the winter time. She was not allowed any intercourse with the bull until she was older, when she conceived.

I am, from the facts mentioned in this and my last letter, inclined to think that the circumstance of calves seeking the bull, and becoming impregnated at so early a period, is not so rare a fact as we might be led to imagine, and have little doubt but many similar cases will be sent for your insertion.

ON THE RETENTION OF THE PLACENTA IN A COW.

By Mr. W. DODMAN, Thorney Abbey.

I WAS consulted on the 12th Oct. 1835, respecting a cow which had not evacuated the placenta, five days having elapsed since calving: she was in rather low condition, and seemed dull; there was slight fever, her milk much diminished, and her udder becoming indurated. Although the natural efforts of the animal were quite suspended, and, as often occurs, there was partial spasmodic stricture of the vagina, I did not think it a case in which manual assistance was even required, nor, perhaps, practicable. I considered the fever, irritability, and spasmodic action as entirely depending on a disordered state of the digestive system, and had recourse to the following form of medicine: \mathfrak{R} sulph. sublim., magnes. sulph. $\mathfrak{a}\mathfrak{a}$ \mathfrak{z} iv; aloes cap. pulv., zingib. pulv. $\mathfrak{a}\mathfrak{a}$ \mathfrak{z} j; valerian. pulv. \mathfrak{z} ij, conii fol. pulv. \mathfrak{z} ij.

I ordered the cow to be kept warm and dry, and to be dieted with bran mashes, &c. and her udder perseveringly, yet gently, hand-rubbed. Within twenty-four hours she had *cleansed*, and in a day or two her milk *flushed*, and she was quite well. I have great dependence on large doses of valerian conjoined with co-

nium and laxatives in such cases. In most instances of retention of the placenta the symptoms are such as I have enumerated. I seldom venture to bleed so shortly after parturition, particularly when the patient is thin in flesh, lest great debility should follow. I have had numerous opportunities of witnessing the most beneficial results from the above treatment in my own practice; I am, therefore, induced to send you these facts for insertion in your valuable periodical, should they be esteemed worthy of a place therein.

RESULTS OF THE SPAYING OF COWS.

By M. LEVRAT.

THE VETERINARIAN for August last contains a memoir on the castration of cows, accompanied by several cases. These cases, however, were drawn up a very little while after the operation, and could only indicate the immediate effects of it. It may be useful, now that more than a year has passed, to describe the present state of the animals.

The cow which was operated on in June 1833 yields, when she is at grass, the same quantity of milk that she gave on the preceding year.

The second, operated upon in November 1833, gives, when at grass, eleven *pots* (qy. quarts) of milk.

The third, spayed in December 1834, yields, when at grass, seven *pots* and a half.

The fourth, operated upon in March 1834, gives more than nine *pots*. This cow, that was mischievous, and difficult to milk, seemed to be cured of her vicious habits by the operation; but she soon became as bad as ever, and is obliged to be hobbled in order to be milked.

Two of these cows shewed symptoms of œstrum as before. In one of them it was not periodical, as in other cows: the other, that had, as already related, a large yellow mass in the place of the left ovary, has been at heat several times. She has gone to the bull, which has quieted her for awhile, but the heat has returned at irregular intervals.

May not these facts lead us to believe, that the ovaries have only a secondary influence on the development of the œstrum, and that the uterus exerts the principal influence in the production of it.

In neither the one nor the other of these cows did the milk undergo any alteration in quantity or quality during the period

of œstrum ; while in cows that have not been spayed there is always a change to a greater or less degree.

As to the quality of the milk from cows that have been spayed, M. Francillon says, that it yields more and better cream than before.

The cow of M. Perdonnet, operated on in January 1834, continues to give, when at grass, the same quantity of milk which she did at the time of the operation ; but the milk, which had lost its cream for a few months after the operation, is now become richer than ever it was before. She has been at heat once only, and her milk did not undergo any change at that time.

Rec. Sept. 1835.

ON BAR SHOES.

By Mr. E. CHARLES, Clarges Street, London.

A BAR shoe is a nearly circular piece of iron, applied to the foot of the horse, and is so called because, when first used, a bar was most probably welded across the heels of a common shoe.

The diseases to the cure of which the bar shoe is most frequently applied, are corn and sandcrack ; and the effect sought to be produced is, the creation of a space between the shoe and the foot, so that no part of the weight of the animal shall bear on that portion of the foot which requires protection.

In a foot to which a bar shoe has never been applied, there is little difficulty in keeping a shoe, however clumsily it may be made, from bearing on the diseased part, because, the frog being in most cases higher than the heels of the crust, the bar of the shoe rests upon it, and the heels of the crust are thereby relieved entirely from the pressure of the shoe. But when, by the constant use of a bar shoe, the frog is worn down level with the heels of the crust, it becomes necessary that the shoe should be made to adapt itself to the altered state of the foot. This is done by making the shoe considerably thinner for the diseased or tender part, and leaving it thicker over the frog, that it may come in contact with that organ, while still at some distance from the heels.

Another advantage is gained by this form of shoe ; viz. a perfectly flat ground surface : the quarters are also preserved, which, under other circumstances, are almost sure to be destroyed ; and when the frog and quarters are worn away, the difficulty of keeping the shoe from bearing on the heels is increased in proportion

to the length of time the shoe is worn. Hence, it often follows, that a horse that wears a bar shoe once, wears it for ever, as it actually produces the disease it was meant to cure.

I am perfectly aware that it is much easier to shoe horses on paper than it is in the forge; and I also know, there are some feet which can only be shod so as to make them go sound in the very sort of shoe I would condemn as generally mischievous, viz. one which is bent up to keep it from touching the heels, instead of being made thin over the heels, more particularly the outer edge of it, which is opposite the crust; but these, owing to several causes which do not properly belong to this subject, are getting very rare; and some of them have, no doubt, been produced by being shod, in the first place, with the shoes they are now compelled to wear.

Now, though I must confess that the art of shoeing at some forges in London is brought nearer perfection than it ever has been before, yet I was led to make these remarks, by having lately seen several bar shoes, which had been put on at some large establishments, totally devoid of principle, both in the construction and application, and yet finished in a very superior manner, and highly creditable to the makers as mechanics. This is a state of things that ought not to exist at the present time; and though I am fearful this will not be read by many who are entrusted with the important duty of fitting and putting on the shoe, I think their employers may derive both honour and profit, would they attend to this branch of the art themselves; instructing those who are ignorant of the principles of shoeing, and confirming, by judicious explanation, those who are doing the thing properly, in many instances, I am afraid, by mere accident.

THE VETERINARIAN, DECEMBER 1, 1835.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

It is with a more than usual degree of satisfaction that, laying before our readers the concluding number of another year, we review this portion of our literary life. What our friend Mr. Holford says is too true,—that the brighter stars of our profession have not shone upon us so often and so brilliantly as we could have wished. They have acted by us as do the planets that might

illuminate other spheres. Enshrined amidst their own light, and needing not the rays of inferior luminaries, they have revolved in their own circle,—radiant but not cheering—resplendent, but shedding little useful or invigorating influence. Well, if we cannot charm them from their solitary greatness—would that we could!—we, at least, have had to boast of many a lesser light; under the milder but genial influence of which our science has progressed to a degree beyond all comparison with former years. We have shared the fate of every medical journal. We have owed far less than we ought to have done to those whose fame was founded on our art, and whose true interests were bound up with ours; but then we have, to a degree of which few journals can boast, succeeded in obtaining the contributions and support of a host of talented and zealous practitioners. In the space of three years no fewer than one hundred of our brethren have rallied around us, and enriched our pages with their contributions; thirty, at least, have joined our ranks since the commencement of this year; and it can be truly said, that there are few of their papers that are not instructive. One thing more can be truly said—that in no year since the birth of this Journal has the number of its subscribers so rapidly increased. Although this may look a little like boasting, some of our readers are aware of that which makes a statement of this kind somewhat necessary.

But now for a brief analysis of *THE VETERINARIAN* of 1835.

Commencing with the horse, and the sensorial system of that animal, we can scarcely conceive of a more interesting paper than that of Mr. King on the old and fatal and epidemic disease, staggers in the horse: while it contains the greater part of that which is accounted good in the present day, it is a valuable relic of former times.

The explication of tetanus given by Mr. Karkeek, as caused by a deranged state of the digestive organs, is novel, ingenious, and supported by the narration of several successful cases; and the effect of strong and continued blisters on the abdomen is very satisfactory.

The connexion of staggers and epilepsy, and the presence of worms in the intestine, is a fact that needed no proof in man

and his quadruped companion the dog ; but there had been few recorded cases of it in the horse : M. Dubuisson gives an unquestionable instance of it.

The lectures of Mr. Youatt on the diseases of the nervous system must be appreciated according to the pleasure of the reader. The lecture on tetanus was the product of much reflection.

The illustrations of insanity, or, at least, of monomania in the horse, by Professor Rodet, will be read with intense interest by the veterinary and the medical practitioner. Stomach it as the biped may, the difference is far more in degree than in kind between the intelligence of the human being and the brute, and between even the virtues and the vices of each.

A strong confirmation of the propriety of performing the operation of neurotomy above the fetlock, rather than below it, in every case that will admit of it, will be found in a communication by Mr. Simpson. There are too many anastomosing branches to permit the sensibility to be sufficiently and permanently suspended when the pastern nerve alone is divided. There requires, however, much anatomical skill and deep consideration in order to decide the matter well at all times.

Mr. Molyneux has given a pleasing description of the physiology and diseases of the eye of the horse. Mr. Rawlings and Mr. Proctor have added two more cases to those already on record of the formation of cataract without any known or detected previous inflammatory action in the eye generally ; and Mr. Godwin has given a description of that dreadful and untractable disease fungus hæmatodes in the eye. The progress and termination of this complaint will be read with painful interest by those who have struggled in vain to subdue this hundred-headed hydra, and will afford a useful lesson to young practitioners ; as will also the long struggle with caries of the conch of the ear related by Professor Delafond. We do not know a case so likely to bring the practitioner into discredit as his being foiled, as he continually will be, by this minute and apparently insignificant fistula of the ear, unless he takes more decisive steps than the owner will often consent to at the beginning.

The papers by M. Decoste and Mr. Cartwright on the pene-

tration of fistulæ into and the formation of abscesses in the spinal canal, are rare and valuable contributions to the knowledge of the pathology of the sensorial system.

Quitting the sensorial system of the horse, we find many a paper of much intrinsic value relating to the diseases of the digestive one. The supposed periodical fits to which a mare was subject—the evidently threatened suffocation by means of a polypus occupying the pharynx, is well described by Mr. Goodworth. The means that he adopted were scientific and decisive. The fungus hæmatodes which spread around the parotid gland and occupied the whole side of the face and the space beneath the jaw, as related by M. Crepin, affords another instance of the ineffectual struggle of the most consummate surgical skill with this irrepressible morbid growth. Will some veterinarian of considerable observation and practice take up this almost unmentioned evil—this opprobrium of our profession; and also, for the sake of diagnostic reputation, the subject treated of by Professor Dupuy—rupture of the stomach. Is the characteristic symptom of the rupture of this viscus, or of some other portion of the alimentary canal, a rapid convulsive movement of the inferior coccygean muscles? We confess that, in two cases of ruptured stomach which have occurred within the last year or two, either this symptom had no existence, or it escaped our observation.

Has any practitioner put to the test the remedy proposed by M. Dupuy when staggers are supervening on gastric distention, namely, the injection of from fifteen to thirty grains of tartar emetic into the jugular or crural vein? This, according to the Professor, rarely fails of giving relief, after having produced speedy and active purgation.

Mr. Spooner describes an immense calculus found in the colon of a horse, and which, by constant irritation of some of the sacculi of that intestine, eventually produced inflammation and death.

M. Dubuisson gives two successful cases of puncture of the cæcum, after all other means had failed to relieve flatulent colic; and Professor Vatel describes the mode of performing this operation. The surgeon would scarcely have recourse to

such an expedient, until, in real fact, all other means had been tried and failed; but it is some consolation to know, that this intestinal paracentesis is not so necessarily destructive as it has been generally supposed to be. Is there no one of our numerous readers who has experience on this point, and who would relate it to us?

The existence of intromission of the ileum, to the strange extent of more than two feet, and yet not indicated by a single symptom, but either connected with, or the expression of the pain which it occasioned lost in the greater torture the animal suffered from inflammation of the joints leading on to gangrene—this is a singular case recorded by Mr. Cartwright, and deserving attention. It seems to have existed from an early period of the joint affection; for during the two days that the colt was under Mr. Cartwright's care no *fæces* were voided.

In a case of strangulation of the intestines, related by Mr. Rogers, the horse frequently vomited. This is a somewhat unusual, but not unprecedented case.

The present Number contains a case of atrophy in the horse, related by Mr. Holford, connected originally with severe local inflammation, and by means of which the animal was reduced almost to a skeleton. It was long kept at bay by the exhibition of tonic and stimulating medicine, of which cantharides formed a portion, but the tone of the digestive system could never be recovered.

Professor Dupuy relates one of the most singular cases of intestinal lesion which we remember ever to have read of. There was a rent of the *cæco-gastric* portion of the colon near the stomach, and the stomach pressing against the opening, seemed to permit only the fluid contents of the colon to escape, and retained the solid portions. The consequence was, that the abdomen contained a considerable quantity of effused fluid: but its accumulation beyond a certain point was most curiously prevented—there was a perforation in the fundus of the bladder, through which the fluid entered this viscus, and was discharged through the usual urinary passages. The horse was continually staling, and discharging a semi-fluid *fæcal* production; and

by this means, no doubt, his life was prolonged. This is a perfectly unique case, and deserves to be placed among our curiosa.

This volume also contains an important discovery in Toxicology. M. Bouley is principally concerned in this. The hydrate of the peroxide of iron, administered in a considerable quantity, and soon after the ingestion of the poison, is an antidote for arsenic.

We proceed to the absorbent system. What can be more interesting than the account which Professor Hamont gives of the symptoms and connexions and lesions of farcy in the neighbourhood of his newly-established Egyptian school ! We need not a better illustration of the influence of climate and locality. The diseases differ as much as any two diseases possibly can do which affect the same system, and have the same termination. The cases in which, as it appears in France, it has been demonstratively shewn by M. Renault to proceed from the re-absorption of pus, in whatever kind of abscess contained, teach a useful lesson as to the treatment and management of these abscesses. Their formation we cannot prevent ; but we must hasten the process of suppuration as much as may be, and, suppuration having taken place, every moment that the cyst is permitted to be distended by the matter thus formed is fraught with danger.

The cure of farcy described by M. Maurice, as being effected by the extirpation or cauterization of the lymphatic glands in the direction of the thoracic duct, and so, provided that these glands are sound at the period of operation, arresting at once the course of the virus—this is a novel and an ingenious speculation. In the hind extremities, the lymphatics of the groin are to be extirpated. As it regards the back, the loins, and the flanks, the glands of the adipose substance of the flanks must be operated upon. In the fore legs, the neck, and shoulder, the glands on the inferior and lateral surface of the trachea must be removed ; and for the head and the interior of the nose, the lymphatic glands of the neck should be extirpated. M. Maurice speaks of 300 horses that have been cured in this way. These are speculations or facts which cannot fail of at-

tracting the attention of the English veterinarian. M. Renault asserts, that this mode of cure has been successfully practised in the Veterinary School of Alfort.

The list of diseases and accidents that have led on to farcy, given by M. Renault, will be read with attention :—Division of the flexor tendons—thrombus—fistulous withers—common abscess in the neck—inflammation of the parotids. The attention of the practitioner in the treatment of these cases will receive a new direction, and every means will be taken to accelerate the natural process of suppuration, and to prevent the formation of indolent abscesses in whatever part they may be situated.

In considering the treatment of farcy, the administration of strong stimulants, and particularly of cantharides, as recommended by Mr. Holford, will receive due consideration.

Somewhat connected with this, a useful lesson will be learned as to the treatment of obstinate infiltration and induration of the cellular tissue of the lower part of the legs, by the use of deep incisions into which the firing-iron is afterwards introduced, as recommended by M. Lardit. It is a rude and seemingly cruel way of going to work ; but cases do now and then occur, where slight scarifications, and emollient lotions, and the usual routine of practice have altogether failed ; and, at length, a cure has been effected by means of deep incisions and the use of the cautery.

Mr. Toombs has recorded a case of immense abscesses in the thigh of a foal, and which destroyed him in about three weeks ; but he does not speak of any symptoms of farcy accompanying the winding up of the affair.

New and valuable light has been thrown on various diseases of the circulatory system. First of all stands the introduction and establishment of torsion as a humane and effectual way of arresting hemorrhage in almost every operation to which the horse is occasionally subject, and particularly in castration. The banishment of the iron and the clams in this indispensable operation will hereafter be acknowledged as a new era in the history of veterinary surgery. Here much credit will be due to Mr.

Molyneux and Mr. Richardson. The author of this summary of valuable matter in the present volume has constant recourse to torsion in all operations on smaller animals.

Mr. Hales has started a new and ingenious, and, in the opinion of the present chronicler, well-founded theory of inflammation of the vein after bleeding. According to the common opinion, and that espoused by some of our best writers, the inflammation of the jugular vein extends towards the head, and contrary to the course of the circulation. Mr. Hales, on the other hand, maintains that "the inflammation proceeds in each direction, above and below the orifice—that it does not usually, if at all, extend to a greater distance than three or four inches on each side of the orifice; and that the urgent symptoms which sometimes exist about the head and throat are produced by the sudden obstruction of the circulation, and other causes, and not by direct spreading of the inflammation of the vein." This is a subject well worthy of examination.

A singular case of laceration of the left jugular vein was very skilfully conducted and cured by Mr. Hawthorn.

M. Latour adds another to the recorded cases of "intermittent fever." The veterinary nosology is beginning to be placed on its proper basis.

Mr. Meyer's case of ossification of the aorta, and his remarks on ossific deposits generally, are worthy of his rising talent.

Professor Dupuy has recorded a case not only of the presence of filariæ in the great mesenteric artery, but of their having formed to themselves a habitation, with numerous little cells, in the arterial tissue; and Mr. Youatt describes two tumours under the peritoneal coat of the stomach of a leopard, the centres of which were filled with worms of the same description. These are perfectly new views of the occasional residence at least, and the habits, and travels, and effects of these intestinal parasites. The history of the entozoa presents a vast, and important, and almost untrodden field of inquiry.

Mr Meyer's case of croup is a valuable addition to our knowledge of the respiratory diseases of the horse. The prompt and decisive treatment which he recommends is worthy of much praise.

Mr. Chapman's case of laryngitis accompanied by scarlatina, is well told.

Of the recent additions to veterinary surgery, few are more deserving of the closest study than M. Leblanc's account of wounds penetrating into the chest of the horse. Among the numerous and satisfactory experiments which he has made, the veterinarian will find a case analogous to every one that can possibly occur to him in his practice. They do much credit to the diligence and tact, and surgical acumen of the learned Editor.

The inquiry which Mr. Apperley would institute as to the cause of so few broken-winded horses being found in France, would be a novel and interesting one. The observation of this gentleman, that horses that require strong doses of physic are generally strongest in constitution, is consistent with many a physiological and pathological fact.

Mr. Webb has communicated a successful case of paracentesis of the thorax. Such results are few and far between in our records. We may now be induced oftener to have recourse to this operation, and earlier than we have hitherto been accustomed to do, and before extensive and fatal lesions have been effected in the chest.

Mr. Thomson's observations on severe firing in castration deserve serious attention. Our wishes and our experience, however, would disincline us from going to so great a length as he does; and, in fact, we trust that the time is not far distant, when the skilful use of the torsion forceps will altogether preclude that of the iron in this operation.

M. Lautour's account of a contagious disease in the genitals of the horse and mare, although not the first that has been given, is an important addition to our knowledge of the diseases of the generative system. There is no doubt of the occasional existence of this malady, as contagious, and almost as destructive as syphilis itself. It is sad to think what ravages it effected in the constitution—no less than twelve mares died of chronic glanders.

The successful treatment of a case of hydrocele in a foal not

a month old, and in which there was discharge of no less than three quarts of fluid from the scrotum, as related by Mr. Young, does him considerable credit.

Professor Renault's operation of lithotrity in a mare well deserves a place in the records of veterinary surgery—as does, for another reason, and as a very singular anamogy, the existence of but one kidney, and that sufficiently discharging its duty, in a mare.

In the locomotive system, we find two unsuccessful but valuable cases of fracture of the scapula, by Messrs. Dupuy and Fuller. There is only one successful case, we believe, on record, and in that the horse was lame when trotted. There are too many powerful muscles at work. It is sometimes difficult to detect this kind of fracture ; but when it has been detected, the animal should be immediately destroyed.

M. Delaguette treated a case of fracture of the humerus. The bone became quite consolidated, but the animal was destroyed on account of a weakness in the loins, which came on while he was slung. A very intelligible description is given of the bandages proper in such a case.

Mr. Goodworth divided the flexor tendons in a very unfavourable case. There was adhesion of the sessamoid bones to the large metacarpal and the os suffraginis, and it required the exertions of four men to replace the pasterns in their proper position. He candidly acknowledged his error in undertaking such a case ; and one affording a better chance of success soon afterwards coming before him, he succeeded to the full extent of his wishes.

Two cases of inflamed joints are related by Messrs. Holford and Cartwright.

The description of the operation of periosteotomy by the Assistant Professor at the Veterinary College is a valuable addition to veterinary surgery. In recent cases it offers great probability of perfect success. The benefit of it may be extended to exostosis of many different kinds, and will, ultimately, be adopted by the human surgeon.

The adoption of Mr. James Turner's system of deep firing, in

cases of chronic lameness, by Mr. J. Toombs, will be read with interest. There are affections of the legs in which it seems indispensable; but the severity of the operation, and the blemishes, lasting during life, should be well considered.

The reader will find in the present volume an excellent account of the nature and management of Treads, by Mr. Cheetham, and of the extensive lesions often produced by them when unskilfully treated.

Last among the maladies of our chief patient stands an obstinate and a disgraceful one,—mange. Our continental brethren have successfully employed the Creostote, or preparation of soot, as an easy and radical cure for it.

Many papers of sterling value occur in this volume relating to those neglected subjects, the diseases of cattle and sheep. Among these, and under the digestive system, the treatise on diarrhœa in cattle, by Mr. Brown, will not pass unnoticed. He traces its exciting causes to an obstruction of the third stomach, or a morbid action of the liver; and the treatment which he recommends in either case is evidently scientific, and has been sanctioned by considerable experience of its effects. There are few subjects more important than the digestive functions of cattle, or in which we more need communications from skilful and experienced men.

Mr. Harrison places redwater on its proper basis, as primarily, in a great majority of cases, a disease of the digestive organs. This is a new doctrine among us; but it is founded on truth, and will lead to far more successful practice than has hitherto been adopted.

The diseases of the spleen of the ox—their causes, symptoms, and treatment—this was another unexplored field. We are much indebted to M. Crusel for a very complete and useful map of the country.

The operation of œsophagotomy on a parturient cow, by Mr. Horsefield, was a bold and a successful one.

The case of rupture of the pericardium, by Mr. Friend, will not escape observation. It stands alone in the records of cattle medicine. His sketch of the symptoms is ingenious and satisfactory.

We extract from the French a report, by M. Huzard, on the causes and treatment of phthisis among the dairy cows in Paris. It does mischief enough among us; but in that city its ravages are dreadful. If little could be said with regard to the curative treatment of it, the report abounds with many a useful hint as to its cause and prevention.

Mr. Meyer contributes an excellent paper on Bronchitis in cattle. The number of young stock that fall victims to the irritation produced by worms in the bronchial tubes would scarcely be credited. Mr. Meyer is fortunate in his sketch of the prevailing causes, and the probable prevention of it: to this, in the present state of our art, our efforts must often be almost bounded. He has, however, been very successful in the treatment of bronchitis. The agriculturist and the veterinarian will be much interested in this communication.

Some very curious statements of the early Œstrum and Impregnation of the short-horned heifer will be found. Are these peculiar to this breed, and characteristic of their general early maturity? Is it an excellence or a defect? One of them was delivered of a dead calf when only thirteen months old: another died in calving at twelve months old. Messrs. Berry, Cartwright, and Dick, deserve many thanks for their information on this singular point of cattle physiology.

The case of superfetation in a cow, by Mr. Cowell, is another novel contribution to the physiology of these animals.

The most important improvement, however, in the treatment of cattle, is the spaying of the milch cow before her flush of milk is gone off, and thus enabling her, for an indefinite period, and probably until old age, constantly to yield her greatest quantity of this valuable fluid. The eventual gain to the dairyman must be immense; and had no other fact been communicated than this—the possibility of perpetuating the milking powers of the cow—the last year of *THE VETERINARIAN* would not have been spent in vain.

The different symptoms and treatment of foot-rot and founder in the horse and in cattle, as delineated by Messrs. Pottie and Ball, are very singular; and a careful perusal of them will preserve the young practitioner from being deluded by analogical reasoning.

The sheep is not quite neglected in this volume. The hints on phrenitis by Mr. Tait are useful. Mr. Harris gives, without exception, the best description of rabies in that animal that has issued from the British press. The treatment of inflammation in the udder and the uterus, by Messrs. Ainslie and Clarke, are valuable; and particularly the account of the water-bellied lambs by the latter.

The dog has been almost forgotten by the contributors to this volume, with the exception of a few remarks on fracture of the humerus, rabies, and the treatment of enlarged thyroid glands.

Of the miscellaneous papers, those on the relation between the veterinary surgeon and the practitioner of human medicine will not be overlooked; and the account of the presentation of a bust of himself to Professor Coleman will be a subject of historical record.

We have spoken thus freely, and truly we believe, of the character of this volume of *THE VETERINARIAN*, because it is the work of our friends, far more than our own; and we are free to confess, that if, at the outset of our career, it had been told us that in any one year such important service would have been rendered to the cause of veterinary science, we should have deemed the prediction too flattering to be realized.

As for the future, we will only say, that we will still endeavour to deserve the support we experience. We have been enabled to open a communication with foreign correspondents that promises to be useful. The lectures will take on a rather different character: they will be contributions to the nascent, neglected, but all-important study of animal pathology.

As to our home contributors, we look to them with gratitude and expectation: they will not desert the work which they nursed into such extended usefulness. We bid them, a little before the time, "a merry Christmas and a happy new year;" and they will indeed render us merry and happy, if, in the course of this month, they will load the table of our study with good cheer for the mind, and for the veterinary profession.

Y.

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